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EVERY MAN

HIS OWN

CATTLE DOCTOR;

OR,

A PRACTICAL TREATISE

ON THE

DISEASES OF HORNED CATTLE:

BEING

A CONCISE AND FAMILIAR DESCRIPTION OF ALL THE DISEASES INCIDENT TO

OXEN, COWS, AND SHEEP;

With the most simple and effectual method of curing each Disorder, in all its various stages; and the most efficacious treatment of Cows, before, at, and after the time of calving; and also of Ewes during the lambing season.

BY FRANCIS CLATER,

CHEMIST AND DRUGGIST, RETFORD.

ALBANY:

1817.

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INTRODUCTION.

THE following Treatise on the DISEASES OF NEAT CATTLE AND SHEEP, is not the production of a few years' experience, but the result of *upwards of forty years extensive practice*. The author's motives for publishing a treatise on the disorders incident to these valuable animals, are briefly as follows:

1. They have hitherto been almost entirely neglected; or have otherwise been considered as beneath the notice of medical gentlemen; whose abilities and opportunities certainly qualify them to convey better information than that which the author of the following sheets has been able to produce.

2. In most of the different publications relative to Neat Cattle and Sheep, which the author has had an opportunity of inspecting, those parts which are appropriated to medical treatment, have very far exceeded the requisite bounds in the quantity of the doses prescribed; and thus in all probability, the strength of many valuable beasts has been materially weakened, even although their lives should not have been shortened.

For instance, in the works just adverted to, from three to six ounces of glauber salts are prescribed for full sized animals, whereas the author has always found that a less quantity than one pound would never purge full grown beasts, when in health; in fevers they require considerably more.

3. It will likewise be seen that most of the drinks directed in the present volume, are so adjusted in point of quantity, as to produce the desired effect when properly administered. The practitioner is frequently cautioned in different parts of this work, to see that all articles containing an essential oil, such as seeds of every kind, and many of the roots, be fresh pulverized at the time of using; for if kept in a powdered state they in a short time lose all their medical virtue Horse or cattle powders, bought of wholesale dealers, are mostly adulterated, and may be purchased at one half the price at which the seeds and roots of the same kind are sold.

It is of the greatest importance to have genuine drugs, in the cure of the diseases peculiar to neat cattle, as well as those incident to the human species. These animals do not require seeds and roots to be reduced into so fine a powder as others that do not ruminate or chew their cud; as they have different stomachs for medicine, as well as food to pass through, which are sufficient to extract the virtues of most vegetables.

In consequence of the repeated applications of a great number of gentlemen farmers and graziers, the author was prevailed upon to undertake the work now offered to the public; if it be found to give adequate instruction to these gentlemen, so as to enable them to prevent as well as cure those maladies to which neat cattle and sheep are liable, his purpose will have been fully accomplished. It only remains therefore to state what has been attempted in the present treatise.

I. A concise description of every disease has been given, together with a particular method of treating the same through every stage.

II. The proper method of compounding the different medicines is also detailed, detecting their qualities and regulating their doses, suitably to every age and size.

III. A number of valuable recipes are here made known, such as have never before been published.—

The author is fully aware that the generality of cow-doctors or cow-leeches, will complain that many of the recipes are too expensive, and not likely to leave much profit. Be it however observed, that he has not considered the interest of these persons, but that of the owners, and the lives of the animals.

It is the interest of every grazier to make himself acquainted with the different diseases of cattle, their symptoms and different methods of treatment; and if this were more generally the case, he would rarely if ever have occasion to employ a cow-leech. Medicines when wrongly applied, or not given in a sufficient quantity, increase the malignity of most diseases, while too large a dose may endanger the animal's life. By strict attention to the following rules, most persons will be enabled to act with propriety and judgment.

Particular diseases, requiring more than ordinary care, are discussed at considerable length. Such as the Downfall in the Udder of Cows, Red Water, Black Water, Fevers, &c. &c. &c. A small part of this work is appropriated to the description of the different diseases incident to young Calves, together with the medicines suitable to each. Towards the close of this volume, there will be found a short Treatise on Sheep, containing their different diseases, symptoms, and methods of cure. Many of the maladies which have been deemed incurable in sheep, the author has treated with uncommon success

It is now upwards of twenty years since he first began to prescribe for these animals. That fatal disease, the *Rot*, has been successfully treated in its worst stage, as well as many others, to the great satisfaction of the respective owners. All superfluous matters are rigorously omitted, and nothing but the nature and symptoms of every disease clearly pointed out, together with its proper cure; so that persons of small abilities may in a short time acquire sufficient knowledge to practice therein. The author is conscious that the style and execution of the following treatise may stand in need

of every allowance from the candid reader; but if on the whole, it be found to contain more profitable information to gentlemen farmers, graziers and cow-leeches, than any other work of similar or greater extent, he will be sufficiently compensated in the recollection that his labors have not been altogether fruitless.

As neat cattle certainly constitute an essential part of our national wealth, when we consider all the various purposes for which they are employed, this introduction may properly close with a few observations on their different varieties, and on the selection of stock for farms.

The most common names in use, which are given to these animals, are those of *Neat Cattle*, or *Black Cattle*. Under these appellations are included both sexes, as the Ox, Bull, and Cow; their generic characters are as follow:

Cloven-footed, with or without horns, horns bending out laterally.

Eight cutting teeth in the lower jaw, and none in the upper.

Skin along the lower side of the neck pendulous.

Rounded horns, with a large space between their bases.

Neat cattle are called by various other names, as the *Urus*, *Auroch*, (a common name for a bull of the temperate climate) and the *Bison*, or bull, a native of hot countries. The bunch on the shoulders of the bison is doubtless a natural production, and is very large when the animal is in high condition: on the contrary, when reduced by poverty, it is barely discernible, and by intercopulation with others that bear no such mark, this will in the course of two or three descents be entirely lost.

The All-wise disposer of events has thought it good to reduce all the animal creation under the power and dominion of man. Neat cattle, in particular, may be said to rank foremost in the creation, especially when we consider their great utility, and the wonderful variety of productions these valuable animals afford to-

wards the support and use of mankind. The milk, for instance, which a single cow will yield in the course of the summer season, or from the time of calving to the time of letting dry, is an amazing quantity; from this are produced butter and cheese—no trifling articles of human provision. There is in fact scarcely a part about this useful animal, but what is of infinite use; even the blood is applied to different purposes. Butchers use it for the purpose of feeding swine; the chemist employs it it in the preparation of Prussian blue; and the farmer for manuring his land.

Further, the fat or tallow of neat cattle is made into candles which contribute not a little to the increase of our domestic comforts. The hides, when tanned and curried, make leather of the best and strongest kind, from which boots, shoes, and numberless other articles are manufactured. The hair is used to cement the walls of our dwelling houses, and the horns are made into combs, handles for knives, drinking vessels and a great variety of toys of different descriptions. The bones are a cheap substitute for ivory, from which a great number of useful articles are made by mechanics in large manufacturing towns; considerable quantities are in many places used for manuring land; and lastly, the flesh of this noble animal forms one of the most delicious and substantial dishes at our tables.

The form or construction of these animals varies according to every climate. A great variety is to be met with in most countries; but it is greatly to be regretted that farmers in general are so full of self confidence in their own knowledge, as to the respective breeds which are best adapted to their own farms, or at least their pockets; and that prejudices, thus deeply seated, are so difficult to be eradicated. There is notwithstanding, a considerable number of gentlemen graziers in most countries, who have made great improvements in the breed of neat cattle, which are much to their credit. Such cattle as are intended to be reared, or brought up for the dairy, or to fatten in the pasture,

ought to be bred from cows of a good make and shape, and which also have been got by a bull of the same description. The shape and make of the male are in most countries eagerly sought for, and are found to be equally as necessary as the choice of a stallion for mares, or of a tup for ewes. Most persons appear indeed to concur in this one opinion, that a well formed male is indispensably necessary in the breeding of cattle of all descriptions. When farmers first enter upon a farm, they ought to make themselves acquainted with the nature and quality of the soil; whether it be better adapted for breeding and rearing of stock;—for keeping a dairy;—or for feeding of stock for the shambles.—These considerations ought at all times to be attentively regarded. It rarely happens that cattle purchased from rich lands, do well on poor soils; but on the contrary, those taken from poor farms, in general thrive well on good land. The choice of neat cattle, therefore, for the stocking of farms, ought to be regulated according to the nature and quality of the soil.

Again, the age of neat cattle it is highly requisite should be known to every one who has any thing to do with them. They, as well as sheep, have no teeth in the upper jaw; the age therefore must be determined by those on the lower jaw.

At two years old they get two new front teeth, or nippers, and every succeeding year they get two more, until they are five years old; at six years old they become full mouthed, the last two being completely up. There is another method by which the age of neat cattle may be determined, viz. by their horns. At the age of three years their horns are smooth and even; and every succeeding year there is a wrinkle or circle round the basis near the head, which keeps moving the other forward; so that if the first wrinkle be stated at three years old, it will be easy to tell the age of any beast after that time.

Young cattle are for the most part best understood by the following names. The bull, while sucking, is

called a bull-calf; and from one to two years old, a stirk or a yearling bull; every year afterwards he is called a bull of three, four, five and six years old, after which period he becomes aged. A young castrated male, after the first year is called a stot-calf, or stirk stot, and then a steer; at four years old he receives the name of a bullock. A female at the first is called a quey-calf; and a heifer till the age of four years; she then takes the name of a cow, which is retained as long as she lives.

As soon as neat cattle arrive at the state of maturity, they are called by the appellation of Ox, Bull and Cow.—There is a regular time for gestation amongst the females of different animals; the cow goes nine months in calf, sometimes a week more or a week less. The mare goes eleven months; and sheep five months; the sow one hundred and twenty days. These may all vary a few days more or less; they should be attended to day and night, about the regular time of parturition, in order that every assistance may be given to the animal which nature may require, that the young may be preserved, and the life of the animal rescued from imminent danger.

EVERY MAN

HIS OWN

CATTLE DOCTOR, &c.

SECTION I.

FELLON, EPIDEMIC COLD OR INFLUENZA.

THE observations most worthy of notice in this disease, relate to its first cause. It in general proceeds from the sudden change of the atmosphere, from a warm and moist air to a piercing cold and dry wind, which powerfully affects the whole animal frame, by shutting up the pores of the skin, and in a great measure putting a stop to perspiration. In cases of this kind the hide becomes thickened, and the hair looks penfeathered or staring, and appears to stand the wrong way on the animal's back.

Cows are the most liable to be afflicted by the Influenza, owing to the different state, or changeableness of the weather, and also from their being more tenderly managed, by being housed during the winter. The long prevailing north and north-easterly winds, at the spring of the year, very often produce dangerous and sometimes fatal diseases.

Horned cattle, and particularly Cows, are subject to a great variety of diseases; which are for the most part brought on by the different effects of the elements on

the animal frame; and often in a few days reduce them from the greatest state of perfection to a mere skeleton. In this case the regular course of the blood through the veins and arteries is obstructed, which frequently causes an inflammation to take place in some particular part of the body, as the stomach, bowels or intestines, kidneys, bladder, and sometimes even the brain. In cases of this kind, bleeding should not be neglected.

Hence are produced fevers of different descriptions, which will be discussed under their proper heads in different parts of this treatise.

The first symptoms that are produced by taking cold, are, a heaviness in the head, and dulness in their motion;—with weeping eyes;—a sudden depression of the milky secretion —and if the hand be pressed upon the chine, or any part of the back, the animal will instantly give way. This is for the most part called the *Chine-Fellon*, and is best understood by that name in the country. At other times the joints become more particularly affected than any other part, from which circumstance it is in general termed the *Joint-Felon*. *Old Cows* are the most subject to this last complaint, especially a short time before calving. It is attended with considerable pain and weakness; if the animal lie down she is seldom able to rise without some assistance till after calving. This necessarily occasions much trouble to the owner, which, if proper care had been taken, might have been prevented. When this happens, they generally require some assistance at rising, until the time of calving; in all other respects they appear well, and eat their food as usual. For more information on this head, see Sect. XXII, on *Rheumatism* or *Joint-Fellon*.

In the cure of Colds of every description, the first attempt should be to remove the cause, by giving to the animal a warm cordial drink; which acting as a stimulant on the stomach and intestines, will give fresh motion to these parts, and will enable nature to resume her former course. Either of the following drinks will be found sufficient to answer the desired effect under proper management.

RECIPE (No. 1.)

Take Anniseeds, Carraway-Seeds, grains of Paradise, and Fenugreek,
Of each, two ounces, in powder ;
Mix them together for one drink.

RECIPE (No. 2.)

Take Sweet Fennel seeds, and Cummin-seeds, of each two ounces in powder ;
Long Pepper, Turmeric, Ginger, and Ennula Campana, (Elecampane,) each one ounce, in powder.
Mix for one drink.

The method of giving either of these drinks is as follows: take one and put it into a pitcher with two ounces of fresh butter, and two table-spoons-full of treacle or coarse sugar; then pour one quart of boiling ale upon the whole; cover them down till new-milk warm, and then give the drink to the beast.

By this method the whole virtue of the seeds will be retained, which chiefly consists in the essential oil. By giving a few of these drinks to cattle that have been much reduced from scanty food, during a long winter, the animals have been so much revived thereby, as to resume nearly all their original life and vigor. In cases of this kind, where the system appears debilitated, one of the above drinks may be given every day, for three or four days together; but, if the animal be in tolerable condition, the drinks may be repeated every other or third day, as may be thought most requisite.

In two hours after giving the drink, let the animal have a good mash made of scalded bran, or ground

malt, with a handful or two of ground oats, or barley meal added to it, and warm water that day. In slight colds during the summer, these drinks may be given to cattle while in their pasture; and where it can be made convenient, let them fast two hours after, and then graze as usual. It is also necessary to examine the sick animals every day, to watch them while they both dung and stale, and to see whether the body be of proper heat, and the nose or muzzle of a natural breeze.

If these be regular, there is not much danger. If, however, feverish symptoms should appear (which frequently happen,) the animal will become costive, and if not speedily relieved will be in danger. In such cases let one of the following Purging Drinks be given.

RECIPE (No. 3.)

Take Glauber Salts, one pound;
Ginger, in powder, two ounces;
Treacle, four ounces.

Put all the ingredients into a pitcher, and pour three pints of boiling water upon them. When new-milk warm give the whole for one dose.

RECIPE (No. 4)

Take Epsom Salts, one pound;
Aniseeds and Ginger, in powder, each two ounces;
Treacle, four ounces.

Let this drink be given in the same manner as the above (No. 3.)

In most cases, either of these drinks will be found sufficient to purge a full grown animal of this kind. The *last*, I frequently think, works its passage more quickly. If either of these drinks fail in the operation in sixteen or twenty hours, let one half of either No. 3, or No. 4, be repeated every night and morning until the desired effect be obtained. By strict attention to the above method of application, a fever may be prevented and the animal speedily restored. It should, however, be recollected, that after the intestines are sufficiently evacuated, it will be proper to repeat the Cordial Drink, (No. 1, or No. 2,) for a few times.

SECTION II.

PERIPNEUMONY, OR INFLAMMATION OF THE LUNGS.

Hepatic diseases, amongst Horned Cattle, are of frequent occurrence, and are produced by a variety of causes.

First, by the powerful effects of the elements upon the animal frame, in bringing on this disease :—dry, harsh winds, are severely felt, by shutting up the pores of the skin, and checking the perspiration, which is so essential to life and to the health of the animal as not to be dispensed with.

Secondly, It has frequently been brought on by *drinking cold water when over heated.*

Thirdly, At other times it has attacked those which have been turned into fresh pastures, when their stomach has been overcharged with herbage ; in conse-

quence of which the load upon the lungs becomes very oppressive; the sizy and viscid part of the blood obstructs the vessels, and brings on difficulty in breathing, attended with a troublesome cough and hoosing. These symptoms indicate the lungs to be considerably affected. While the discharge from the nose and mouth continues to be pretty copious, the inflammation makes but little progress; but as soon as this discharge is stopped, it rapidly increases; and if not timely checked, will quickly terminate in the animal's dissolution.

Symptoms of an inflammation taking place are discovered by the body becoming alternately hot and cold; the extremities for the most part cold;—especially the ears, horns and feet; if the beast be in low condition, weak, and much debilitated, bleeding is seldom necessary; but if, on the contrary, the animal be in high condition, the fever appears to increase, and the body feels of a hot, dry and parching heat, and the breath the same; further, if the white of the eyes appears to be much inflamed, and tinged with a yellow hue;—bleeding in such cases will become highly necessary in this stage of the disease. From two to four quarts of blood may be taken away, according to the size, strength and condition of the animal; and if found necessary, let it be repeated. A small quantity may be taken away every day, or every other day according to the violence of the symptoms.

Sometimes this disease puts on a flattering appearance, the fever and heat appear small and scarcely perceptible: at other times it seems rapid in its progress.

The cause of the disease appears in a great measure to proceed from a deficiency in the animal's nature of performing its regular course, in carrying on a due circulation through all the vessels. The redundant state of the blood, through these impediments, becomes surcharged with the pituitous lentor of the blood and humors; for the glands cease to secrete the bile, which is not poured into the intestines, but becomes deposited on the skin. Hence is produced the jaundice, which is known by yellowness of the eyes, and of the different parts of the body.

The cure must be attempted according to the symptoms already noticed.—The costive state of the animal's body, which in general accompanies this disease, must be strictly attended to. Let, therefore, the purging drink (No. 3. or No. 4.) be given as above directed, and the body be afterwards kept open by giving one half of either of the before mentioned purging drinks in the morning, and the other half in the evening, about every second or third day, as occasion may require.

If the fever continue, after the intestines have been evacuated (which is seldom the case,) it will be proper to take some blood from the animal, and the quantity must be regulated according to the disease and habit of body. By strict attention to the above rules the disease will be checked, and the animal's body properly prepared for either of the following drinks, which may be given every day, except on those days when the purging drink is given.

RECIPE (No. 5.)

Take Anniseeds and Carraway Seeds, in powder, each two ounces ;
Ginger and Nitre, in powder, each one ounce ;
Salt of Tartar, one ounce ;
Gum Myrrh, in powder, half an ounce ;
Mix them together for one drink.

RECIPE (No. 6.)

Take Sweet Fennel Seeds, in powder, two ounces ;
Grains of Paradise, in powder, one ounce ;
Peruvian Bark, (in powder,) Salt of Tartar, Mottled Soap, sliced, each one ounce.
Mix for one drink.

Either of these drinks may be given in a quart of thin gruel, with a wine glass of gin, or other spirits if more convenient, and sweetened with two table-spoons full of treacle, or sugar. It will be proper to repeat these drinks, as stated above. Warm water, mashes and gruel, must be regularly given two or three times a day.

These drinks will be found to operate powerfully in expelling the disease, and to promote insensible perspiration, as well as in dissolving and evacuating the phlegm in the ventricles and intestines, while they will also open and cleanse the vessels in the lungs, and bring them to a regular performance of their functions. After a strict application of the aforesaid remedies, and of the management according to the rules already laid down, if any symptoms of the disease should still remain, it will be proper to give the following drink.

RECIPE (No. 7.)

Take Valerian, in powder, two ounces ;
Dried Squills, in powder, one drachm ;
Gum Myrrh, in powder, half an ounce ;
Balsam of Sulphur, and Balsam of Capivi, each one ounce ; the two last articles to be beat up with the yolk of an egg ;
Add Sweet Spirits of Nitre, one ounce ;
Tincture of Opium, half an ounce.
Mix for one drink.

Let this drink be given in a quart of warm gruel sweetened, and a wine glass full of spirits be added to it ; and treat the beast with mashes and warm water as before.—This drink may be repeated every third day, for three or four times.

SECTION III.

THE YELLOWS, OR JAUNDICE.

This is a common disease among Neat Cattle, and proceeds from the obstruction of the gall bladder and the cystic duct. The gall is a yellow liquor, separated in the liver and collected in the gall-bladder: its great use is to mix with the chyle, to rouse the peristaltic motion of the intestines, and to finish digestion. This saponaceous juice corrects the acidity in the stomach and bowels; its salutary effects are powerfully felt in all parts of the body.

The Yellows, or Jaundice, consists in a diffusion of this bile throughout the whole body, and is favored by every thing that obstructs its passage it to the *duodenum*. This disease is first observable in the white of the eyes, which appears of a yellow tint, and as it increases, the whole skin becomes impregnated with the same yellow hue; the ears, tail, eyes and mouth, are the parts where it is most conspicuous to the sight. In every stage of the disease, the animals are attended with weakness and a great debility of the nervous system, a listlessness to move, and want of appetite. When in the pasture they wander about by themselves, by the sides of hedges or fences in a dejected manner.

These appearances sufficiently indicate the disease. Milch cows are the most subject to it in the spring and the latter end of the year; although they are not exempt from it at all other times. The most dangerous state in this disease is, when a Schirrous Liver is the cause; little hope can then be entertained of a permanent cure. The fluctuating state of the weather has a powerful effect upon the animal frame in retarding or promoting the cure; care should also be taken to house them at all unfavorable opportunities.

As soon as this disease makes its first appearance, it may for the most part be removed by administering the following drink.

RECIPE (No. 8.)

Take Cummin Seeds, Anniseeds, and Turmeric Root, in powder, each two ounces ;
Grains of Paradise, in powder, Castile Soap, and Salt of Tartar, each one ounce ;
Treacle, two ounces ;
Mix for one drink.

Slice the soap, and put the whole into a pitcher, then pour a quart of boiling ale upon the ingredients, and cover them down till new-milk warm, then give the drink.—It will be proper to repeat this drink for two or three times, every other day, or oftener if required. If the beast be in middling condition, from two to three quarts of blood may be taken away ; they should not be turned out after bleeding that day, nor at night, but the morning following they may go to their pasture as usual If the disease do not give way to the above treatment, but still keep on the increase, it will be proper to give the purging drink (No. 3 or No. 4.)—After this has had the desired effect let the following be given.

RECIPE (No. 9.)

Take Balsam of Capivi, and Salt of Tartar, each one ounce ;
Castile Soap, two ounces ;

Beat them together in a marble mortar ;
Add Valerian Root, in powder, two ounces ;
Ginger Root and Peruvian Bark, in powder, each one ounce ;
Treacle, two ounces ;
Mix for one drink.

Let this drink be given in a quart of warm gruel, and repeated if necessary every other day. It will be found excellent in removing obstructions and promoting a free circulation through all the animal secretions. It must be observed, that it will be proper to keep the body sufficiently open through every stage of the disease; for if costiveness be permitted, the fever will increase; and if not timely removed, the disorder will terminate fatally. The following purging drink will be found well adapted for opening a passage through the intestines and carrying off or removing those concretions that obstruct the progress of the bile.

RECIPE (No. 10.)

Take Barbadoes Aloes, one ounce ;
Castile Soap, Salt of Tartar, and Ginger, in powder, of each half an ounce ;
Anniseeds, fresh powdered, two ounces ;
Castor Oil, four ounces ;
Treacle, four table-spoons full ;
Mix for one drink.

Put the above drink into a pitcher, pour a quart of hot gruel upon it, and when new-milk warm give it to the animal. If the castor oil be thought too expensive,

it may be omitted, and three or four drachms more of the aloes added. This drink will in general operate in the course of from twelve to sixteen hours, according to the animal's state of body. But when this happens not to be the case, let one half of the last mentioned drink be repeated every night and morning until the desired effect be accomplished. And as soon as the cause is removed, the animals may speedily be restored to their former health, by giving two or three of the drinks (No. 1, or No. 2.) and if a milch cow, they quickly restore them to their former flush of milk.

SECTION IV.

INFLAMMATION OF THE BRAIN.

This disease is one of the most distressing to which cattle are subject, and is commonly called by the name of *Frenzy*, or *Sough*. It is most prevalent during the hot months in the summer season. It is sometimes idiopatic, or a primary disease, at other times it is symptomatic. Inflammation of the brain proceeds from some other malady, as fevers of a different kind, or from an inflammation taking place in some particular part of the body, and which is transferred to the brain. The cause is too great an efflux of blood pressing upon the temporal arteries; from which an increased action of the vessels takes place. The symptoms that usually precede a true inflammation of the brain, are—a kind of madness, attended with ravings and constant watchings—slow respiration, and a strong pulsation in the temporal arteries. The animal appears in a very fierce state, as if seized with a turbulent kind of madness. The eyes appear much inflamed and ready to start from their orbits; the beasts often fall down of a sudden, and

rise again with the same volatility, until nature is quite exhausted ;—a constant trembling and starting of the tendons ;—a dry and harsh skin ;—a suppression of the urine ;—grinding of the teeth and a total want of rest. These last are unfavorable symptoms.

The *Frenzy*, or *Inflammation of the Brain* is sometimes occasioned by wounds or contusions in the head, that are attended with violent inflammations of the vessels, and if not speedily relieved may terminate in a gangrene or a mortification, which is very often the case, and that in a few days.

Wounds in this state require the speedy application of the most powerful medicines ; for the proper administering of which the reader will consult Section XXVI, *On Wounds.*

In the cure of this disease the following method must be attended to : First lessen the quantity of blood by frequent bleeding ; which may be repeated daily if required ; and by which the great efflux of blood upon the temporal arteries will be lessened and much retarded. The following purgative drink will be found suitable for this disease, and likewise for most fevers of an inflammatory nature.

RECIPE (No. 11.)

Take Glauber Salts, one pound ;
Tartarised Antimony, one drachm ;
Camphor, two drachms ;
Treacle, four ounces ;
Mix and put the whole into a pitcher, and pour three pints of boiling water upon them ;
When new-milk warm, add Tincture of Opium, half an ounce, and give it all for one dose.

This drink will in general operate briskly in the space of twenty or twenty four hours; if not, let one half of the quantity be given to the beast every night and morning, until the desired effect be obtained. This will be found a powerful drink, not only in acting as a purge, but in opening obstructions by which the offending cause will quickly be removed. After the intestines have been sufficiently evacuated by giving the above drink (No. 11,) it will be found necessary to give the following powders as long as any inflammatory symptoms remain.

RECIPE (No. 12.)

Take White Antimonial Powder, two drachms;
Nitre, one ounce;
Camphor, in powder, and Tincture of Opium, of each two drachms;
Mix for one dose.

These powders must be given in a pint of warm gruel, and repeated every morning and evening until the fever begins to abate; afterwards once a day will be sufficient. It frequently happens in this disease that an inflammatory swelling takes place upon the jaws, and on different parts of the head. In cases of this kind there is a difficulty in swallowing; and as the inflammation increases, the jaws become gradually closed so as not to be opened without an instrument.*

Inflammations and contractions in these parts require medicines of the most powerful kind: the following will be found excellent for the purpose.

* This is termed a Locked Jaw.—The proper treatment of this dreadful malady is stated, *infra*, Section XIX.

RECIPE (No. 13.)

Take the best Soft Soap, six ounces ;
Spirits of Hartshorn, Rectified Spirits of Wine, and Tincture of Opium, of each eight ounces ;
Oil of Origanum, two ounces.

Mix the soap and spirits of hartshorn well together, in a marble mortar, then add the remainder of the articles, and mix them all together, and keep them in a bottle well stopped for use. This liniment will be found a powerful medicine in all antispasmodic diseases of this kind. The parts afflicted must be well rubbed with it every morning and evening, or oftener if required. The animals under all these afflictions, can seldom of themselves take a sufficient quantity of nourishment to keep them alive. It will therefore be found necessary to horn a sufficient quantity of that kind which produces the most nutriment.

The following gruel will be found adequate to the purpose.

Take an equal quantity of Linseed in powder, and Oatmeal ; make them into a stiff gruel by just giving them a boil in a sufficient quanity of water, and when new-milk warm, from two to four quarts may be horned into the beast, or more if necessary, three or four times a day ; the gruel may be sweetened with coarse sugar or treacle, and half an ounce of Nitre, and a little common Salt added, if thought proper.

By these means the strength of the animal will be supported, and it will be the better enabled to undergo the operation of medicine. This may be reckoned one of the severest diseases to which Horned Cattle are liable; and after the symptoms disappear, it leaves them in a low, dejected and debilitated state. The following restorative drink will be found very suitable for such cattle as have been reduced by severe disease.

RECIPE (No. 14.)

Take Peruvian Bark, in powder, one ounce; Nitre and Salt of Steel, of each half an ounce in powder;
Anniseeds and Carraway Seeds, in powder, of each one ounce;
Treacle, four table-spoons full;
Mix for one drink, and give it in a quart of warm gruel;
A wine glass of Gin, or two or three table-spoons of Brandy, may be added to the drink if thought proper.

It will be necessary to repeat this drink every two or three days, for three or four times, or longer if required, or the following, if thought more proper, may be given.

RECIPE (No. 15.)

Take Peruvian Bark and Gentium, in powder, each one ounce;
Rust of Iron, half an ounce;
Ginger Root, in powder, one ounce;

Elixir of Vitriol, two drachms;
Treacle, four table-spoons full;
Gin, or Brandy, two table-spoons full;
Mix and give it in a quart of warm gruel, the same as No. 14.

SECTION V.

MURRAIN, OR THE PESTILENTIAL FEVER.

This is another of those severe diseases which afflict Neat Cattle, and which very often prove fatal among them. It has at times made great ravages in most parts of Europe, as well as in our own country.

This disease, it has been frequently remarked, made great destruction among Horned Cattle from the year 1744 to 1770: And I may further add that few years pass away without its appearance in one part or other of the kingdom, and with different degrees of virulence. I have often thought that the murrain bears some resemblance to the plague in Europe, or the yellow fever in the West Indies, both of which have proved so fatal to mankind. There is every reason to suppose that this distemper is a contagious one, and is drawn in by the breath, at the nose and mouth of the animal, from others that are infected; and if the latter were timely separated, there is no doubt but that the further progress of the infection would be prevented. This disease is of the putrid kind, and is first observed by its effects in disordering the whole animal frame for several days before it makes its outward appearance.

The first symptoms that appear are a shivering and trembling of the limbs;—a decrease of appetite;—the head and neck protruding;—a difficulty in swallowing;—the eyes appear dull and languid, and often shed

tears; together with a continual scouring. In a few days the breath, and also the dung of the diseased beasts become fetid and very offensive. The steam that perspires from the body, the breath and the excrements, affect the surrounding air for some distance ;—the head, horns and breath are very hot ;—the body and limbs cold ;—the mouth affected with blisters.—This pestilential disease is one of the most violent that can befal Neat Cattle. From the violence of the fever an inflammation quickly takes place in the stomach and intestines. It may also be discovered by the appearance of a morbid tumor either across the loins, or on some other part of the body ; and if the hand be pressed upon the swelling, it makes a crackling noise somewhat similar to that of a bladder, when dry and full of wind. The cause of this sound I apprehend to be the violence of the fever drying up every appearance of moisture.

In this stage of the disease, a gangrene or a mortification in general takes place :—which, though it leaves but little hopes of recovery, yet does not diminish our duty in using every means in our power to terminate the progress of so destructive a malady.

The more favorable symptoms are as follows : when the fever is checked in its progress, the tumor gradually fills and forms a good pus, and is discharged in a proper manner. The method of cure recommended by most authors is, first to bleed copiously once or twice a day, until seven or eight quarts of blood are taken away. But I have always found the following method of treatment to be preferable.

As soon as possible therefore, after the disease is discovered, let the purging drink (No. 11,) be given, and repeated as there directed, until the desired effect be obtained. It sometimes happens after giving this drink, that the animal throws it up again ; which is chiefly owing to a quantity of acid being formed in the beast's stomach from a load of indigested food. When this is the case, it will be proper to give the purging drink

(No. 3 or 4,) or if not thought too expensive, give (No. 10.) which will correct the acid in the stomach, and for the most part produce the desired effect; if not it must be repeated until the load is removed. If the fever is not checked or put a stop to, after the stomach and intestines are evacuated, let two quarts of blood be taken from the beast, (or more if its strength will admit of it,) and the powders (No. 2,) be given as there directed. By strict attention to the aforesaid treatment, the fever will in general be removed in the course of a few days: should it however continue to increase, and proceed guadually to a state of putrefaction, let the following drink be given.

RECIPE (No. 16.)

Take Allum, in powder, four ounces;
Nitre, and Peruvian Bark, in powder, of each one ounce;
Treacle four ounces;
Mix for one drink.

Let these ingredients be put in a pitcher, and a quart of hot gruel poured upon them: when new-milk warm add half a pint of vinegar and give it to the beast. It may be repeated once a day, or every other day. as circumstances may require This drink will also be found excellent in preventing the infection from spreading among the remainder of the cattle.

In this case it will be proper to fetch them all out of the pasture into an open yard in the evening, and take from two to four quarts of blood from each, according to their size and condition: let them stand in the yard till next morning, then give to each one of the above drinks: two hours after turn them into their pasture again. They may be fetched up every other night,

and the drink repeated next morning, for two or three times. I have no doubt but it will be sufficient to put a stop to the infection.—As this disease proceeds to a crisis, the most difficult time is from the sixth to the ninth day; if the animal survive the last, they will in general get the better. They are left in a low and debilitated state, for which it will be proper to give them one of the restorative drinks (No. 14, or 15,) and repeat it as there directed. As soon as any swelling begins to make its appearance in any part of the body, (which is almost sure to be the case in a few days after they are attacked) let the following mixture be well rubbed in, all over the parts affected.

RECIPE (No. 17.)

Take Nitre, four ounces;
Vinegar, one quart;
Dissolve the Nitre in the Vinegar;
Add Oil of Vitriol, one ounce;
Tincture of Opium, two ounces;
Camphorated Spirits of Wine, four ounces;
Mix them together in a bottle for use.

The parts affected must be rubbed two or three times a day with this mixture. It will be found a powerful application in repelling or stopping the progress of this black mortifying tumor. It has been the custom amongst some cow-leeches to attempt the removal of the mortified parts with a knife, but I never knew this practice to answer.

When the inflammatory tumors terminate in a gangrene or mortification, their approach will be known by the following symptoms:—The inflammation loses its redness, and assumes a dusky or livid color;—the tension of the skin goes off, and the latter feels of a

flabby nature;—the complexion of the tumor changes from that of a livid to a more dark or black appearance; —the pulse is quick and low, accompanied with cold and clammy sweats. When these symptoms appear, there are but little hopes of recovery. The more favorable symptoms are those when the tumefied parts are gradually proceeding to a state of suppuration. In this case the restringent mixture must be omitted; and the following emollient oils be well applied on the part affected, two or three times a day.

RECIPE (No. 18.)

Take Oil of Elder, four ounces;
Spirits of Turpentine and Linseed Oil, of each three ounces;
Water of pure Ammonia, two ounces;
Opodeldoc, and Tincture of Opium, of each two ounces;
Mix, and put them in a bottle for use.

The bottle should be well shaken every time the mixture is used; and as soon as matter or pus is sufficiently formed, it may be discharged with a lancet, or a knife suitable for the purpose, and afterwards dressed with digestive medicines *

Further, the animals suffering under this disease are in general severely afflicted with a sore mouth, full of blisters, and much inflamed. The following mixture will be found suitable for the purposes of washing or gargling the mouth and throat.

* For the proper treatment in this case, see Sec. XXVI, *infra*, On Wounds.

RECIPE (No. 10.)

Take Allum, in fine powder, two ounces ;
Nitre, and Bole Armenic, in powder, of each one ounce ;
Honey, two ounces ;
White Wine Vinegar, one quart ;
Mix, and keep them in a bottle for use.

The mouth must be well washed with this mixture two or three times a day, in the following manner.—Take a stick or cane about two feet long, and fold round one end a small lump of linen or fine tow ; secure it well with strong thread ; then shake the bottle well, and pour a sufficient quantity into a pot ; dip the end of the cane or stick that has the linen or tow fixed on it, into the gargle mixture, and apply it all over the mouth. Neat Cattle suffering under this severe disease are seldom of themselves able to take a sufficient quantity of nourishment ; therefore let them have the gruel (directed in page 27.) horned into them three or four times a day ; and as soon as they will eat, let them have a mash of scalded bran, or malt, with two or three hands full of ground corn mixed. Proper care and good nursing will quickly bring them about.

SECTION VI.

BLACK-LEG, QUARTER-EVIL, OR BLACK QUARTER.

This disease is called by a great number of other names ; but as they all indicate the same disorder, it

would be of no advantage to the reader here to repeat them.

The symptoms are in many respects similar to those of the *Murrain*, or *Pestilential Fever*. It is however highly necessary to discuss this malady in a separate section, as it does not appear to be either infectious or epidemic, but is almost wholly confined to young cattle from one to two years old. The Quarter-Evil chiefly affects such as are in the best condition. Milch cows, or lean cattle of all descriptions, are seldom seized with this disease; and during the winter it is not known. The summer season is the time when it makes its appearance, and very often proves destructive to great numbers of young cattle in different parts of the kingdom.—When the vegetable creation springs up in all its perfection, the young animals are not able to stand against such luxurious living, particularly those which have been much reduced by bad keeping and scanty food during a long and severe winter.

The *cause* proceeds from a redundance or overflowing of the blood, which is very great, and frequently occasions them to drop and die suddenly in a state of putrefaction.

The *symptoms* are, a sudden depression of the whole animal frame, as if seized or struck with the palsy;—a swelling takes place immediately in some part of the body, as on the legs, shoulders, under the belly, or on some part of the back; when it appears on this last part towards the loins, it will be attended with the most danger. It is first discovered by the crackling noise made by the swelling, when the hand is pressed upon it; and owing to a quantity of air being collected between the skin and flesh. The mouth and tongue are full of blisters, from the violence of the fever.

Method of Treatment.

As soon as this disease makes its appearance upon the young animal, take from one to three quarts of

blood away, according to age and size. Two hours after bleeding, give the following purging drink; which will be found of a proper strength for young cattle, from the age of one to two years old.

RECIPE (No. 20.)

Take Glauber Salts, from eight to twelve ounces, according to size and strength;
White Antimonial Powder, one drachm;
Camphor (rubbed into powder, with a few drops of Spirits of Wine,) one drachm;
Anniseeds, and Ginger, fresh powdered, of each one ounce;
Treacle, four table-spoons full;
Mix for one drink.

Let the ingredients be put into a pitcher, and then pour a quart of boiling water upon them, and cover the vessel down until new-milk warm, and then give it. If the animal be more than two years old, the salts may be increased in proportion until the quantity shall amount to one pound. This will be found a powerful drink in removing those inflammatory symptoms which attend diseases of this kind, as well as to evacuate the stomach and intestines. But if this should fail in purging the beast in the space of twelve or twenty hours, it must be repeated by giving one half of the drink every night and morning, until the desired effect be obtained; as without this, there are but little hopes of recovery. When this is accomplished the following drink may be given once a day, or every other day, as may be thought necessary.

RECIPE (No. 21.)

Take Allum, in powder, two ounces ;
Nitre, in powder, one ounce ;
Peruvian Bark, in powder, half an ounce ;
Anniseeds and Carraway Seeds, in powder, of each one ounce ;
Treacle, four ounces ;
Mix for one drink.

Let this drink be put in a pitcher, and a quart of boiling water poured upon the ingredients: cover them down, and when new-milk warm, add half a pint of good vinegar, and give the whole immediately. If the fever be attended with considerable inflammation in the parts affected, and still continue to increase, it will be proper to omit the above drink, and have recourse to the powders (No. 12,) and give them as there directed; and as soon as the unfavorable symptoms disappear, the above drink may be resumed. All the swollen or tumefied parts must be well rubbed with the mixture (No. 17.) But if the tumor gradually proceed to suppurate, it will be proper to encourage it, by applying the emollient mixture (No. 18,) or the following, as may be thought most proper.

RECIPE (No. 22.)

Take Marsh-mallows Ointment, and Ointment of Elder, of each four ounces ;
Spirits of Turpentine, two ounces ;
Oil of Vitriol, half an ounce ;
Mix and stir them together in a pot ;
Then add four ounces of Olive Oil,
And stir them together for use.

All the tumefied parts must be well rubbed with this ointment twice a day; and if it be thought not too much trouble, the parts may at the same time be fomented with the following preparation.

RECIPE (No. 23)

Take White Poppy Heads, in number twelve;
Wormwood, fresh gathered, one handfull;
Marsh-mallows Root, one handfull;
Linseed, bruised, half a pound;
Bruise the Poppy Heads, and cut the others small,
And boil them in two gallons of Ale dregs.

Then take two or three large pieces of flannel, and wring them out of the liquor as hot as you can, and apply them to the swelling. This will very much assist the concoction or formation of pus; and as soon as it is brought to a sufficient state of muturation, it must be opened with a lancet, or a proper knife for the purpose, and afterwards dressed in the same manner as other wounds of the like nature.* The mouth is in general infected with large blisters, which must be examined and pricked with a lancet, and afterwards dressed with (No. 12,) as there directed, or otherwise the mixture with the following mixture.

* See Section XXVI, *infra*, On Wounds

RECIPE (No. 24.)

Take Burnt Allum, half an ounce ;
Armenian Bole, in powder, half an ounce ;
Common Salt, two ounces ;
Put the whole in a pitcher, then pour a pint and a half of hot Vinegar upon them ; when cold put them in a bottle for use.

Take a small stick or cane, about two feet long, fasten securely round one end a sufficient quantity of fine tow, or old linen, and apply the medicine in the same manner as directed in (No. 19.)

It will now be proper to lay before the reader a few observations worthy of notice, respecting the prevention of this malady in those districts where it is accustomed to appear.—Every possible precaution cannot be too strictly adhered to in preventing so destructive a disease among young cattle ; for if once attacked, their cure may be doubtful. Such as thrive most, are in general first attacked, and in the greatest danger. As soon as this disease makes its appearance upon any one of the herd, while in the pasture, let them all be brought out in the evening into a fold yard, when from two to three quarts of blood may be taken from each, according to its size, condition and strength. Let them be kept there till next morning, and then give to each beast one of the following drinks.

RECIPE (No. 25.)

Take Crude Antimony, in powder, half an ounce ;
Brown Sugar Candy, and Nitre, in powder, of each one ounce ;
Myrrh, in powder, a quarter of an ounce ;

Flowers of Sulphur, two ounces;
Mix for one drink.

This drink must be given fasting in the morning, in a quart of warm gruel, two hours after the beasts may be turned into the pasture. Or the following may be given, if thought more proper.

RECIPE (No. 26.)

Take Nitre and Madder, of each one ounce, in powder;
Allum, in powder, and Flowers of Sulphur, of each two ounces;
Treacle, four table-spoons full;
Mix for one drink.

This must be given in a quart of warm gruel and a wine glass full of common gin added to it. Two or three of these drinks, with bleeding, are in general deemed sufficient to protect them against the future approach of this disease, if given every third morning. By adhering to the treatment laid down as above, the disease may not only be cured, but its ravages may also be prevented.

SECTION VII.

RED WATER AND BLACK WATER.

This disease is common among Neat Cattle of every description, but more particularly attacks milch cows than any other kind.

The Red Water and Black Water *seldom occur separately.* The former I conceive to be the *original* disease, and the latter (Black Water) to be occasioned by the retention of part of the blood about the orifice of the leaky vessel, which coagulates, and in a short time putrefies, changing to a black color. This is in part washed away every time the beast stales, and constitutes what is termed Black Water.

The origin of this disease is ascribed by different authors to different causes; for instance, the taking of cold, when turned into low pasture grounds at the spring of the year: others attribute it to the change of pasture, or the scarcity of water in a long dry summer, and some to the changeable state of the atmosphere. Most or all of these causes may at times, occasion bloody urine. In some animals it appears to be more hereditary than in others. I have known some to have been attacked with this complaint once or twice a year, for two or three successive years, and at last literally bleed to death, defying all the powers of medicine and change of diet.

It will be difficult to point out the exact seat of this disease; but the following observations will in some measure enable the practitioner to form his judgment in this respect.

If the Red Water proceed from any external injury, such as a violent strain across the loins in consequence of other beasts ramping on them, or from a severe blow

on the part (which brings on an inflammation of the kidneys and the adjacent parts) the treatment must be the same as in cases of *Inflammation of the Kidneys*.* But when this disease proceeds from other causes, as already stated, it produces a different effect. An inflammation takes place upon the glands, about the neck of the bladder: hence the small blood vessels become ruptured, and the blood coagulates and lodges in the cavity about the neck of the bladder, and produces the two different kinds above mentioned.

When the change takes place from *Red* to *Black* Water the animal in general stales free from either for several times. In slight cases, where the blood is passed away with the urine, the beast does not appear to be affected by it; if a cow, she holds to her quantity of milk and seems no worse. But when the blood so passed away is considerable, and continues for a length of time, it reduces the quantity of milk, and likewise the animal itself to a very low state; and if some powerful remedy be not applied, the beast must inevitably sink under the pressure of the disease. Bleeding is seldom, if ever necessary, as the quantity of blood lost is more than sufficient.

The cure must first be attempted by evacuating the stomach and intestines; for which purpose the following drink will be found suitable.

RECIPE (No. 27.)

Take Glauber Salts, one pound;
Nitre, and Cream of Tartar, in powder, of each one ounce;
Ginger, in powder, two ounces;
Treacle, four table-spoons full;
Mix for one dose.

* Vide *infra*, Section X.

Put these articles into a pitcher, and pour three pints of boiling water upon them. Stir the whole, and when new-milk warm give the drink to the beast.—This contributes powerfully to remove the cause of this disease; for if it operate sufficiently, it in general cures without any other aid; and if not, it will be necessary to repeat it. The greatest danger which attends the animal in this disease, is that of costiveness, or being *saped*, which the above drink will be found amply sufficient to remove. But if it should not have the desired effect by the time the medicine ceases to operate, it will be necessary to give the following ball.

RECIPE (No. 28.)

Take strained Turpentine, four ounces;
Armenian Bole, Bay Berries and Red Sanders, in powder, of each two ounces;
Mix them together in a mortar, and beat them into a proper consistency for one ball.

Let this ball be cut into thin slices, and afterwards dissolved in a quart of gruel, or stale milk, over the fire; take it off, and when new-milk warm give it.

If this ball be given to beasts that are inclining to be costive, it will increase the danger by reason of its astringent quality: in such a case, therefore, it will be most advisable to give the purging drink first. As long as the animal does not appear to be inclined to a costive habit of body, the ball may be given every other day for two or three times, and if the beast is not cured in that time, it will be proper to have recourse to others of a more powerful nature, as follows.

RECIPE (No. 29.)

Take Venice Turpentine, four ounces ;
Nitre, Bay Berries and Armenian Bole, in powder, of each two ounces ;
Allum, in powder, four ounces ;
Make into one ball.

This must be sliced, and put in a pitcher, and a quart of hot gruel be poured upon it, or otherwise dissolved in the gruel over the fire ; put it into a pitcher, let it stand till new-milk warm, and then give it.

This ball may be repeated every other night the same as the former. I have frequently found this to have the desired effect, after all other means have failed. But if these should fail, it will be necessary to proceed to others, by which a permanent cure may be established. The following drink may be given, to great advantage.

RECIPE (No. 30.)

Take Allum, in powder, four ounces ;
Nitre, and Sal Prunella, in powder, of each two ounces ;
Prepared Steel, in powder, one ounce ;
Treacle, four ounces ;
Mix for one drink.

Let these be put into a pitcher, and a quart of boiling gruel poured upon them ; when new-milk warm, add half a pint of good vinegar and give it. This may be repeated every other day for three or four times, and if

it be thought proper, four table-spoons full of spirits of turpentine may be added to the above drink, which will prove a means of forcing it through the urethra, and effect a more speedy cure. The following drink I have known to cure this disease after others have fruitlessly been administered.

RECIPE (No. 31.)

Take strong Spirit of Vitriol, (that commonly called Oil of Vitriol,) half an ounce ;
Tincture of Opium, half an ounce ;
Treacle, four table-spoons full ;
Mix and give it in two quarts of warm gruel.

This may be repeated once a day, if found necessary, until a cure be obtained. There is a great number of other medicines made use of in the cure of this complaint ; but I never could find any to excel the recipes above given. Some instances indeed have occurred, where half a pound of common salt, dissolved in two quarts of sour buttermilk, has completely succeeded in removing this complaint. The animal ought to be kept from food two hours before any of the preceding drinks or balls are given, and also one or two hours after.

They seldom require any particular kind of food, as they are rarely, if ever, off from their food, except they are attacked with a fever ; in which case they are liable to become costive or saped, which is always attended with danger.

SECTION VIII.

DIARRHŒA, OR ROTTENNESS.

This disease shows itself sometimes by copious stools of a slimy, bilious and black nature; and at other times of a more frothy, greasy and clay-like nature.

Its causes may arise from various circumstances. The most frequent are the acidity, or putrescency of the aliments;—acrid bile;—pus secreted from abscesses, and carried to the intestines;—obstructed perspiration;—putrid vapor;—and the translation of the morbid matter of other diseases to the intestines.

The diarrhœa, when of long standing, is always attended with danger; the frequent or constant motion of the intestines to eject or discharge their contents, quickly reduces the animal to a very weak and debilitated state, attended with loss of appetite, in consequencce of which the foundation of an incurable disease will be laid, if not timely removed. It is supposed by most authors to be occasioned by the severe effects of the north and north-easterly winds at the spring of the year. Such winds have very great effect upon the constitution of cattle that have been *clammed or pined* during the winter, in forwarding the disease. The time when cattle are most liable to be seized with diarrhœa, is in the months of April and May, especially if the season be wet and cold, grass plentiful, and of a sappy nature. The relaxed powers of animal nature are not able to perform the office of digestion, as they are too apt to overload the stomach. Thus a large quantity of acid is formed in the stomach, and conveyed from thence through the intestines, which produces slimy and bilious stools. Here nature, by her own effort, endeavors to check its progress by an effusion of the saponaceous juice of the bile, which is fixed for the purpose of cor-

recting acidity and forwarding digestion, but in many instances it often fails.

Cows, after calving, are liable to take cold when exposed in damp or wet situations in severe weather, which frequently causes this disease.

The following are the unfavorable symptoms. The animal loses her appetite, the dewlap hangs down and has a flabby appearance; her dung runs off, with a putrid and offensive smell, and as it falls upon the ground, rises up in bubbles;—the hair all over the body appears pen-feathered, or staring. These symptoms indicate but little hopes of a speedy cure.

The animals thus affected should be taken from grass, and put into a large cow-house, or an open yard, where they can be sheltered from the weather, and kept on dry meat, such as good hay, ground oats, barley and beans.

Take an equal quantity of any one of these three articles, and add to them a similar quantity of linseed cake; this will make good food for cattle laboring under this disorder. A proper quantity should be given them at a time, two or three times a day, and if they are much reduced, and their appetite is quite gone, a stiff gruel may be made of the same, and horned into the beast three or four times a day. A strict attention to this method of diet will convey a sufficient quantity of nutriment to the animal, so as to enable it to undergo the operation of the medicine. The cure of this disease must first be attempted by evacuating the stomach and intestines of those bilious and slimy excrements, that corrode and destroy the mucous lining of those parts. This method may perhaps appear inconsistent in the judgment of some, but its good effect will soon be perceived; it prepares the parts, and lays a good foundation, on which other medicines can duly operate.

RECIPE (No. 32.)

Take Salt of Tartar, one ounce ;
Ipecacuanha, in powder, one drachm ;
Socotrine Aloes, in powder, four drachms ;
Castor Oil, four ounces ;
Ginger, in powder, one ounce ;
Treacle, four table-spoons full ;
Mix for one drink.

This drink is to be dissolved or mixed in a quart of hot gruel, and given when new-milk warm. It will be found a mild and valuable purge for removing and carrying off whatever obstructions may have caused this disease. The strength of the drink may be increased, by adding two or three drachms more of aloes, if found necessary. In twenty four hours, or when the physic has nearly done operating, the following drink may be administered.

RECIPE (No. 33.)

Take prepared Chalk, four ounces ;
Bole Armenic and Anniseeds, in powder, of each two ounces ;
Ginger, in powder, one ounce ;
Allum, in powder, three ounces ;
Tincture of Opium, half an ounce ;
Mix for one drink.

This drink may be given in a quart of warm ale or gruel, and repeated every other day for three or four times or more. In some cases the allum may be omit-

ted, and the same quantity of common salt may be substituted, and the drink may be given in a quart of warm milk. After repeated trials I have found the drink now prescribed to have the desired effect in curing this disease, when little hopes of recovery appeared.—In case however the above should fail in producing the desired effect, it will be necessary to proceed to others, for which I shall give several different formulæ.

RECIPE (No. 34.)

Take Castile Soap, sliced, two ounces ;
Dissolve it in a quart of warm gruel ;
Then add prepared Chalk, four ounces ;
Ginger, in powder, one ounce ;
Rhubarb, in powder, half an ounce ;
Sweet Spirits of Nitre, one ounce ;
Tincture of Opium, half an ounce ;
Mix them together, and give them in a quart of warm gruel.

This drink may be repeated every other day for some time ; or the following, which may be in some cases preferable.

RECIPE (No. 35.)

Take prepared Oyster Shells, and prepared Chalk, in powder, of each four ounces ;
Ginger, and Gum Kino, in powder, of each one ounce ;
Allum, in powder, two ounces ;
Tincture of Opium, half an ounce ;

Mix and give them in a quart of warm ale or gruel.

All these different kinds of drinks will be found powerful absorbents, and in most cases well adapted to put a stop to those immoderate fluxes of humors which are continually pouring forth their contents upon the intestines; and which nature appears to be in continual motion to eject by contracting the mouths of those vessels. As soon as the progress of the disease is checked, and the animal begins to recover its strength, the cure may be greatly accelerated by giving the following astringent drink.

RECIPE (No. 36.)

Take Gum Kino, in powder, and Peruvian Bark, in powder, of each one ounce;
Pomegranate Shell, in powder, two ounces;
Tincture of Opium, half an ounce;
Mix for one drink.

Boil the pomegranate powder in three pints of water, and when new-milk warm, add the remainder of the ingredients and give it. This will be found a most excellent drink in bracing and restoring the relaxed powers of the animal, and likewise in carrying off the remains of the disease. It will be proper to repeat the drink every other day, for three or four times.

SECTION IX.

INFLAMMATION OF THE LIVER.

This disease frequently takes place among Horned Cattle; it does not appear to be confined to any particular part of the liver, but sometimes affects the membranes only, on its substance, in the concave or the convex side thereof. But as the treatment in each case is necessarily the same, it will be of no consequence what part is affected.

The liver is of a glandular substance, and the largest to be met with in the animal body; its chief use is to secrete the bile. Inflammation of the liver may proceed from various causes, sometimes external, at other times from internal, but mostly from the latter. Fat beasts, or such as are in good condition, are the most liable to be attacked with this disease; particularly in hot weather, when over heated by driving, or from gadding and running about in the pasture on very hot days;—drinking cold water;—or being exposed to sudden cold after the body has been so heated.

Inflammations occasioned by external causes, chiefly proceed from other cattle goring them with their horns, or a violent blow or bruise from some other cause.

The symptoms are chiefly as follows:—a violent pain and swelling about the short ribs on the right side, attended with difficulty in breathing;—loathing of food;—great thirst;—with a yellowness extending all over the body, and on the white of the eyes;—a palpitation or beating of the heart, attended with a strong fever. If the inflammation suppurate, and discharge itself into the abdomen, the disease becomes more critical and dangerous; in this state there is but little prospect of recovery. Bleeding will always be found proper at the

commencement of this disease; but the greatest relief, in general, proceeds from purgative medicines, such as (No. 3, or No. 27,) or the following, it thought more proper.

RECIPE (No. 37.)

Take Barbadoes Aloes, one ounce ;
Castor Oil, four ounces ;
Rhubarb, in powder, two drachms ;
Castile Soap, sliced, one ounce ;
Salt of Tartar, half an ounce ;
Ginger, and Annisceds, fresh powdered, of each one ounce ;
Treacle, four table-spoons full ;
Mix and give it in a quart of warm gruel.

This drink will be found sufficiently strong for a full grown beast ; yet if it does not operate in the space of twelve or fourteen hours, it will be proper to repeat it, by giving one half of the above drink every night and morning until a sufficient passage through the intestines be obtained. For if this be neglected, the fever will rapidly increase and carry off the animal in a very short time.—If the fever and inflammation still continue, after the bowels have been sufficiently evacuated, it will be proper to repeat the bleeding, to the quantity of two quarts or more ; and if needful, it may be repeated every other day as long as the inflammation continues. *Violent purgative medicines* should be avoided. yet it will be always requsite to keep the body sufficiently open, after which give the following drink.

RECIPE (No. 38.)

Take Nitre, in powder, two ounces ;
Castile Soap, sliced, one ounce ;
Tartarised Antimony, one drachm ;
Salt of Tartar, half an ounce ;
Ginger, Carraway seeds, and Anniseeds, of each one ounce, in powder ;
Coarse Sugar, two table-spoons full ;
To be mixed and given in a quart of warm gruel.

It will be proper to repeat this drink once a day, for several days together, or as long as any symptoms of the disease may continue to appear. If after all these endeavors, the fever still continues violent, it will be necessary to give the powders (No. 12,) and afterwards the animal may be restored by giving one of the drinks (No. 14.) The diet should be mashes, made of scalded bran, with a proper quantity of ground corn and linseed cake mixed in it, or stiff gruel.

By strict attention to this method of practice, a cure in the very worst of cases may be performed.

SECTION X.

INFLAMMATION OF THE KIDNIES.

This disease is of frequent occurrence among Horned Cattle, and is often attended with very severe and fatal consequences. Country farriers in general treat it very improperly, by giving hot stimulating medicines, without first properly qualifying them with others, which tend more to increase than to abate the inflammation.—Small as the organs of the kidneys are, they are very essential to life, and could not be dispensed with. The quantity of blood that passes through them is very great; and whatsoever may hinder or obstruct the extremities of the arteries, and prevent them from transmitting the fluid to its proper destination, will infallibly bring on this disease.

Inflammation of the kidneys may proceed from a violent blow across the loins, or a sprain in that part;—but more frequently from small stones or gravel being lodged within the kidneys;—or from violent motion in hard driving in hot and sultry weather;—or from any other circumstance that drives the blood too forcibly into the kidneys. The following are the more violent symptoms:—

A burning heat, attended with great pain in the region of the kidneys, or across the loins, and in general extending on the ureters to the bladder;—the heat is very perceptible to the hand, when applied on the part; and if pressed, the animal will instantly give way;—the urine is of a high color and sometimes nearly red, often discharged in small quantities, yet with considerable pain and difficulty;—a shivering or trembling of the whole body;—cold and clammy sweats;—the extremi-

ties, as the ears, horns and feet, are for the most part cold.

The sudden cessation of the nephritic pains, and the urine dribbling away in small quantities, of a black and fetid color, are certain signs of approaching mortification.

The symptoms that indicate a favorable termination in this disease, are as follows :—If the urine becomes high or coffee-colored;—is secreted in a much larger quantity than stated before;—and at last is copious, thick and mixed with mucus;—a gradual relief follows, which always indicates a speedy cure. Bleeding is uniformly necessary at the commencement of this disease; in proportion to the size, strength and condition of the beast, from three to four quarts, or more, may be taken the first time. About two hours after bleeding give the purging drink (No. 11, or No. 37.) Either of these drinks will be sufficient to evacuate the intestines, by which the parts will be greatly relieved; and there is no doubt but the inflammation will be considerably checked. It will be necessary afterwards to give the following drink.

RECIPE (No. 39.)

Take Castile Soap, sliced, one ounce;
Salt of Tartar half an ounce;
Balsam of Capivi, one ounce;
Oil of Juniper, half an ounce;
Tincture of Opium, half an ounce;
Treacle, four table-spoons full;
Camphor, two drachms;
Dissolve it in the Oil of Juniper, and then mix it with the Balsam of Capivi, and the yolk of an egg;
The soap may be dissolved separately in a quart of gruel, and when new-milk warm, the re-

mainder must be well stirred in, and given to the beast.

This drink may be repeated every day, or every other day, as necessity may require. Should the inflammation continue, it will be proper to repeat the bleeding. As soon as the symptoms begin to abate, the cure may be effected by giving the following drink.

RECIPE (No. 40.)

Take Nitre, in powder, two ounces ;
Cream of Tartar, in powder, one ounce ;
Camphor, in powder, two drachms ;
Liquorice Powder and Honey, of each two ounces ;
Tincture of Opium, half an ounce ;
Mix for one drink.

Let all the ingredients be put in a pitcher and a quart of hot gruel poured upon them ; keep it covered until new-milk warm, and then give the drink. It will be proper to repeat this once a day until the inflammatory symptoms begin to abate, and then every other day till the beast is recovered. Costiveness in general accompanies a disease of this kind, and tends greatly to increase it ; whenever it occurs it may be removed by the application of the following clyster, which will lubricate the parts, and at the same time act as a fomentation on the part affected.

RECIPE (No. 41.)

Take Linseed, half a pound;
Give it a boil in two quarts of water, and strain while hot; then add Glauber Salts, four ounces;
Treacle, four ounces;
When new-milk warm inject it up the rectum, and repeat as occasion may require.

If the hand be applied across the loins, and there appear to be an exterior heat attended with pain, which is easily ascertained by pressing the hand, let the part affected be rubbed with the emollient oils (No. 18,) once or twice a day.

SECTION XI.

INFLAMMATION OF THE STOMACH.

Is produced from nearly similar causes with the inflammation of the intestines, and in many respects the symptoms are nearly the same. It is likewise difficult to be distinguished from an inflammation in the convex part of the liver. But as the treatment is nearly alike in each case, the consequence is not material.

Inflammation in the stomach proceeds from different causes.—Neat Cattle in general seem to have no bounds; when admitted into a fresh pasture they are too apt to overlay the stomach, by which the powers of digestion are not able to perform their office;—they forget to lie down to ruminate or chew their cud; for want of which

it frequently undergoes a more severe process of fermentation and heat; this obstructs circulation, and is the chief cause of bringing on an inflammation in these parts; it likewise frequently proceeds from the animal drinking too freely of cold water when over heated, and in a state of perspiration, which is thus suddenly obstructed.

In some instances it is caused by the acrimony of the bile, or from some adjacent part that may be inflamed. At other times it proceeds from taking into the stomach some acrid, stimulating or corrosive poisons, and such like.

This disease is very acute, and requires the most prompt and powerful means of relief that can be employed; otherwise it will prove fatal.

The symptoms are as follows:—a pungent and fixed pain in the stomach, attended with a burning heat;—the breath at times is of so hot a nature, as to raise large blisters on the inside of the mouth. The animal appears quite restless and full of anxiety:—every thing that is swallowed appears to increase the pain: and the stomach resists it with a degree of violence which frequently brings on a painful cough. The extremities are for the most part cold, and the body is at the same time overspread with a cold clammy sweat;—palpitation of the heart, attended with a difficulty in breathing. These may be said to be the chief symptoms that accompany inflammation of the stomach.

The first thing necessary towards a cure, is to bleed plentifully according to size and strength; if the disease prove obstinate, it will be proper to repeat the bleeding in small quantities every two or three days, until the inflammatory symptoms cease. The mashes and water that are given to the beast should never exceed the warmth of new milk, as any thing hotter will tend to increase rather than diminish the inflammation.

The medical treatment must first be, to unload the stomach of its indigested crudities, by giving the most

cooling and gentle purge that can possibly be prepared from the materia medica; for unless the stomach and intestines be first evacuated, there will be but little hopes of a cure. The following will be found adequate to this purpose.

RECIPE (No. 42.)

Take Castor Oil, one pound;
Beat it in a large bason with the yolk of two eggs, until incorporated;
Then add Salt of Tartar, half an ounce;
Treacle or Coarse Sugar, four table-spoons full;
Mix them in three pints of warm gruel, and give it to the beast as soon as possible.

If this drink does not operate, or sufficiently work a passage through the intestines in the space of from twelve to twenty hours, it will be necessary to repeat it, by giving one half of the above drink every night and morning till the object be obtained. But if this should be thought too expensive, let the same proportion of the drink (No. 11,) be given as there directed every night and morning. In every stage of this disease, nothing tends more to give relief than the keeping of the body sufficiently open with gentle purgative medicines. If the fever still continue or rage with increased violence, it will be proper to give the following fever powders.

RECIPE (No. 43.)

Take White Antimonial Powder, two drachms;
Camphor, in powder, two drachms;

Crab's Eyes, prepared, one ounce ;
Tincture of Opium, half an ounce ;
Coarse Sugar, two table-spoons full ;
Mix, and give it in a quart of warm gruel or linseed tea.

It will be necessary to repeat these powders every morning and evening in cases that appear to be dangerous; but where the symptoms are more favorable, once a day will be sufficient. If it should be thought more proper to give the powders (No. 12,) which are very excellent in most inflammatory diseases, let them be given as there directed. As soon as the symptoms begin to abate and the animal to recover its former strength, the following drink will be found very beneficial in bracing and restoring the relaxed constitution.

RECIPE (No. 44.)

Take prepared Steel, in powder, half an ounce ;
Peruvian Bark and Nitre, in powder, of each one ounce ;
Sweet Spirits of Nitre, and Tincture of Rhubarb, of each one ounce ;
Mix them together, and give them in a quart of warm gruel.

This drink may be repeated every third day, for three or four times, or longer if thought proper. With care and proper management, the beast will soon be restored.

SECTION XII.

COLIC, OR GRIPES.

Oxen and Cows of every age are liable to this disease: it appears to proceed from a spasmodic contraction of some part of the intestines. Almost all pains of the belly go under the denomination of colic, or gripes. It therefore will be necessary to consider them under the following different heads.

The *flatulent* or *windy* colic, is for the most part occasioned by the animal overloading the stomach with hard, dry and indigestible food, such as bran, chaff or corn; likewise from drinking too large a quantity of cold water, when in a state of perspiration. In the summer season it frequently takes place among such cattle as are put into fresh pastures, where they are too apt to overlay the stomach with succulent grass. A concoction then takes place, and a quantity of air is formed, which if not speedily removed, an acid will be formed that will corrode the stomach or some part of the intestines, and possibly end in an inflammation.

In this case it appears that the animal heat is not sufficient to bring into motion that mass of aliment or fluid which nature requires, so as to prevent the circulation from being impeded. The inner surface of the stomach and bowels becomes irritated by their cold or acrid qualities, which cause violent twitching pains, and produce so much uneasiness. The animals frequently lie down and rise up on a sudden, and sometimes strike their horns and hind feet against their belly. The pulse seldom appears to be much affected at first; but if the disease continue for any length of time, it becomes much quicker and harder than usual. This in

general indicates the approach of inflammation, and is accompanied with considerable tension of the belly.

The *inflammatory colic*, for the most part proceeds from the former, and if not speedily relieved, must terminate in an inflammation of some important part of the intestines. This disease is in general attended with costiveness, which obstructing the contents of the stomach in some part of the bowels, they in a short time become acrid and viscid, and hence the membranes that line the intestines become inflamed. This is the chief cause of those violent excruciating pains the animal labors under. Neat Cattle are also very liable to another kind of costiveness, called by drovers *fardel-bound*: it proceeds from the liquid parts forcing a passage either through the hardened excrements or by their side. Considerable danger attends cattle in this situation; as the deceitful appearances are easily mistaken for purging. When these symptoms of costiveness make their appearance, no time should be lost; give the purging drink (No. 46, or No. 42,) if already prepared, or for want of these (No. 3 or No. 4) may be given. Should the animal breathe short and heave in the flanks, attended with a continual fever, this indicates the approach of an inflammation.

If this disease continue for a few days with all the aforesaid symptoms, a gangrene or mortification will ensue, which will end in sudden death. This however may be prevented by administering proper medicines in time; for when first attacked with the colic, they seldom require more than some warm stimulating drink to promote the peristaltic motion of the stomach and intestines.

RECIPE (No. 45.)

Take Anniseeds, Sweet Fennel Seeds, and Carraway Seeds, in powder, of each two ounces;

Grains of Paradise, in powder, half an ounce ;
Ginger, fresh powdered, one ounce ;
Spirits of Turpentine, three table-spoons full ;
Tincture of Opium, half an ounce ;
Mix these for one drink.
Add a wine glass of common gin, and give it in a quart of warm gruel.

This will be found an excellent drink for removing flatulency and expelling wind ; and may be repeated twice in the course of the day, if no feverish symptoms appear. But if the animal begin to swell in the body, without obtaining any relief from the above drink, it will be necessary to take away from three to four quarts of blood. This will check the inflammation. About two hours after bleeding, the following purging drink may be given.

RECIPE (No. 46.)

Take Socotrine Aloes, half an ounce ;
Glauber Salts and Castor Oil, of each four ounces ;
Annisseeds, Carraway Seeds, and Ginger, fresh powdered, of each one ounce ;
Oil of Juniper and Tincture of Opium, of each half an ounce ;
Coarse Sugar, three table-spoons full ;
Dissolve the Aloes and Salts in a quart of hot gruel, and when new-milk warm add the remainder of the ingredients, and give it.

This in general operates in about twelve or fourteen hours; if not it will be proper to repeat it, and to give

one half of the above drink every night and morning, until the desired effect be obtained. The quantity of blood to be taken from the beast, when physic is intended to be given in so short a time after, should not exceed two parts out of three of the usual quantity taken at once, otherwise the animal would be reduced too low. The injection of a clyster up the rectum, or anus, twice a day, will greatly assist the physic in its operation.

RECIPE (No. 47.)

Take Linseed, bruised, four ounces;
Tobacco, one ounce;
Common Salt, one handful;
Treacle, four ounces;
Boil the two first articles in three quarts of water;
Strain through a linen cloth, and add the remainder;
When new-milk warm inject it up the anus.

Clysters are in most cases beneficial; they relax the parts as far as they go, and by softening the fæces, promote evacuation much sooner. Immediate ease frequently succeeds these necessary evacuations; and the animal's appetite may in a short time be restored by good nursing; and a few of the restorative drinks (No. 14, or No. 15.) be given as there directed.

SECTION XIII.

FOG SICKNESS, HOVEN, OR BLOWN.

This is a common complaint amongst Neat Cattle, and is attended with symptoms of the most distressing nature. It requires speedy relief, or a rupture of the stomach or some part of the intestines may be expected to take place; which generally soon terminates the animal's existence. Fog Sickness usually proceeds from a voracious and greedy disposition, incident to Neat Cattle when permitted to satiate their appetite with food of which they are most fond; such as red clover, vetches, rich fog, or different kinds of grasses; likewise turnips, potatoes, corn, and sometimes chaff. The latter are more liable to choke the beasts, and the former to blow them.

This disease, or rather accident, requires no description, as it is well known to most cattle-keepers. Beasts are most subject to be Fog-sick, Hoven, or Blown, in the summer; and in the winter to be choaked. It is possible that they may be seized with the former, or escape the latter, or *vice versa*.

This complaint (as already intimated) is in general occasioned by the animal feeding for a considerable time upon rich succulent food, so that the stomach becomes overcharged, and they through their greediness to eat, forget to lie down to ruminate or chew their cud. Thus the paunch, or first stomach is rendered incapable of expelling its contents; a concoction and fermentation take place in the stomach, by which a large quantity of confined air is formed in the part that extends nearly to the anus, and for want of vent at that part causes the animal to swell even to a state of suffocation, or a rupture of some part of the stomach or intes-

tines ensues. As sudden death is the consequence of this, the greatest caution is necessary in turning cattle into a fresh pasture, if the bite of grass be considerable; nor should they be suffered to stop too long at a time in such pastures, before they are removed into a fold yard, or some close, where there is but little to eat, in order that the organs of rumination and digestion may have time to discharge their functions.

If this be attended to for a few times, it will take away that greediness of disposition and prevent this distressing complaint.

Various expedients are employed for the purpose of affording relief, both with medicine and manual operation. Some farmers (to whom the author is known) have made it a practice to give such cows as are of a greedy disposition a comfortable drink, viz. (No. 1 or No. 2,) about an hour before they are turned into a fresh pasture. This, I believe, has had the desired effect, for I never knew any one instance of its failure.

As soon as the beast is discovered to be either Hoven or Blown, by eating too great a quantity of succulent grasses, let the purging drink (No. 3 or No. 4) be given as there directed; either of these drinks will for the most part check fermentation in the stomach, and in a very short time force a passage through the intestines.

When medicine fails to have a speedy effect, recourse must be had to external means, such as the contrivance of Dr. Monro, first communicated to the public in the year 1783. It consists of an iron wire formed into a flexible tube, and covered over with soft smooth leather. The distance found by the Dr. from the fore teeth to the first stomach in a large ox, is about six feet. The instrument, therefore, should be full that length, or rather longer, and then gently passed down the beast's throat into the first stomach; whence a large quantity of fluid air will be discharged. It may remain there for a short time, as it does not impede respiration.

There is another kind of instrument recommended by Mr. Eager, which appears to be equally useful with that of Dr. Monro. Mr. E's. contrivance is of two sizes, the one adapted for cattle, the other for sheep; for which the London Society for the Encouragement of Arts, voted him a premium of fifty guineas in the year 1796. These instruments are constructed as follows: that for cattle is six feet long, with a round knob of wood properly secured to one end of the cane. A man is ordered to lay hold of the horn with one hand, and the nostrils with the other; the assistant must lay fast hold of the tongue with one hand, while he pushes the cane down the animal's throat with the other. As soon as it enters the stomach, a large quantity of fetid air will be disengaged, which will easily be discerned by the animal's body sinking to its former state again; and nature taking its regular course, the beast will soon be restored to health.

If neither of these instruments are near at hand, the following may be used, and I have no doubt but that it will answer every purpose of the former. Take a knob of wood turned in the form of an egg, with a hole bored through the centre and out at each end. Then take a common cart whip two yards long, and secure one end fast in the knob; dip it in oil or soft grease, and introduce it in the same manner as the former.

Paunching is another method frequently resorted to in dangerous cases. The operation is performed in the following manner: take a sharp pen-knife and gently introduce it into the paunch between the haunch bone and the last rib on the left side. This will instantly give vent to a large quantity of fetid air; a small tube of a sufficient length may then be introduced into the wound and remain there until the air is sufficiently evacuated; afterwards take out the tube and lay a pitch plaister over the orifice. Wounds of this kind are seldom attended with danger: where it has arisen, it has been occasioned by the injudicious operator introducing his knife into a wrong part. After the wind is

expelled and the body has been reduced to its natural state let the following cordial drink be given.

RECIPE (No. 48)

Take Anniseeds, Diapente and Elecampane, in powder, of each two ounces ;
Tincture of Rhubarb, two ounces ;
Sweet Spirits of Nitre, one ounce ;
Treacle, four table-spoons full ;
Mix and give it in a quart of warm ale or gruel.

This drink may be repeated every other day for two or three times ; or the following may be given if thought more advisable.

RECIPE (No. 49.)

Take Anniseeds, Grains of Paradise, and Cummin seeds, of each two ounces, in powder ;
Spirits of Turpentine, two table-spoons full ;
Sweet Spirits of Nitre, one ounce ;
Treacle, two table-spoons full ;
Mix and give them in a quart of warm ale or gruel.

This may be repeated once a day for two or three times.

SECTION XIV.

STAGGERS, VERTIGO, OR SWIMMING IN THE HEAD.

HORNED CATTLE are subject to this disease, which is generally known by some of the above mentioned names. The seat of this complaint appears to be in the head; although some think it proceeds from the stomach, and this is most probably the case.

It proceeds from a large quantity of phlegmatic humors pressing upon the brain and optic nerves, which cause the animal to have a wavering and staggering motion of the body.

The symptoms are attended with heaviness and dullness of the whole frame, a constant disposition to sleep, which is manifested by the beast resting its head upon any convenient place. If the disease be not checked in its infancy by bleeding, evacuation and proper management, it will probably terminate in an inflammation of the brain, or on some other part of the body.

This disease mostly attacks animals that have been kept in a state of poverty and starvation during the winter season; and which have in the spring of the year been admitted into a fertile pasture: hence is produced a redundancy of blood and other fluids, pressing upon the contracted vessels, while the animal economy on the other hand, is using its utmost endeavor to restore reduced nature to its original state. If it is not checked in the manner as stated before, inflammation in all probability must take place; in which case the beast is attended with all the symptoms of one that is raving mad..

The cure must first be attempted by taking from two to three or four quarts of blood from the animal, accor-

ding to its size and strength; two or three hours after give one of the purging drinks (No. 3 or No. 4,) or if thought more proper (No. 10.) Any of these are generally sufficient to purge a beast of a moderate size; but if they should not operate in the space of from sixteen or twenty hours, let one half of either of the aforesaid purging drinks be given every twelve hours until the desired effect be obtained. Purging is very necessary in this disease, as well as in all others of an inflammatory kind; for otherwise it will be impossible to check its progress; and as soon as this is effected, the following drink may be given.

RECIPE (No. 50.)

Take Tartarised Antimony, one drachm;
Volatile Salt of Ammonia, and Camphor, of each two drachms, in powder;
Nitre, and Cream of Tartar, in powder, of each one ounce;
Treacle, four table-spoons full;
Mix, and put them in a pitcher, then pour a quart of hot gruel upon the ingredients, stir the whole together, and give it when new-milk warm.

It will be necessary to repeat this drink twice a day until the symptoms begin to abate; afterwards once a day will be sufficient. But so long as the fever continues to be attended with raving and delirious symptoms, it will be proper to take from one to two or three quarts of blood from the animal every two or three days. The keeping of the body sufficiently open with purgative medicines, bleeding and administering the above drink according to the rules laid down, I have no doubt will prove sufficient to perform a cure. If the disease

continue long, the following blistering ointment may be well rubbed on the poll of the head, and on each side of the neck with the hand.

RECIPE (No. 51.)

Take Yellow Basilicon Ointment, three ounces;
Spirits of Turpentine, one ounce;
Spanish Flies, in powder, half an ounce;
Mix them well together on a slab, and put them in a pot for use.

It will be proper to repeat this blister once a day for several days together, and if it take proper effect, it will in general give considerable relief to the parts affected. When the blister has ceased to discharge, the part may be rubbed with elder or marsh-mallow ointment once a day, for two or three times, and after the symptoms are abated, the animal may be restored by giving the drink (No. 14 or No. 15,) as there directed.

SECTION XV.

THE MILK FEVER.

This is a disease peculiar to Cows in high condition at the time of calving; whether young or old, all are liable to be attacked by it. Whenever it takes place either at home or in the field, it is distressing to the animal, as well as troublesome to the owner; they seldom or never are able to rise in less than two or three days after. The puerperal, or milk fever, is most frequent during the hot weather of summer. The cows most liable to be attacked with this fever, have large udders that are full of milk for several days before calving, and often very much inflamed and swelled.

The best method of preventing this disease is as follows: Take four or five quarts of blood from the beast, about eight or ten days before her time of calving; let the blood be taken away at night, and she be kept in a fold yard till next morning. The following drink should be given before the animal is put to grass, as it will check the overflow of milk and brace up the relaxed vessels.

RECIPE (No. 52)

Take Allum, in powder, two ounces;
Nitre and Cream of Tartar, in powder, of each one ounce;
Treacle, four table-spoons full;
Mix them, and let them be put in a pitcher, and a quart of boiling ale and beer mixed be poured upon them. Stir the whole, and when new-milk

warm give it. Two hours after the beast may be turned out.

This drink may be repeated a second time if thought necessary. If the cow's udder is not sufficiently relieved by bleeding and the aforesaid drink, the part may be well rubbed with the following repellent medicine.

RECIPE (No. 53.)

Take Goulard Extract, four ounces ;
Camphorated Spirit of Wine, eight ounces ;
White Vitriol, one ounce ;
Rain Water that has been boiled, one quart ;
Mix and put them in a bottle for use.

The udder and all the vessels about it that appear to be swollen or inflamed, must be well rubbed with this mixture two or three times a day. If the inflammation continue to increase, it will be proper to milk her once or twice a day for several days before calving. When this is the case, the above lotion may be omitted, and the following emollient liniment applied each time after milking.

RECIPE (No. 54.)

Take Elder Ointment, Marsh-mallow Ointment, and soft Soap, of each four ounces ;
Spirits of Turpentine, two ounces ;
Oil of Origanum, half an ounce ;

Mix the whole well together on a slab, and keep it in a pot for use.

This will greatly assist in removing the inflammation, and in assuaging the tumefied parts, as well as restore the milky secretions to their proper state.

Cows thus afflicted before calving, require great care and attention at the time, by which this disease may in a measure be prevented. The Puerperal or Milk Fever, most commonly attacks the cow on the second, third or fourth day. I have known it attack some in a few hours after calving. Its symptoms correspond with those of many other fevers. A cold shivering fit comes on, accompanied with a throbbing, and great sickness; —the pulse is quick, and the tongue parching dry;— the animal becomes very restless, attended with a remarkable depression of spirits and loss of strength;—the extremities are for the most part cold. As soon as this disease takes place, it will be proper to attempt the removal of it by giving the cordial drink, which will warm and stimulate the stomach and intestines; and by giving fresh action to those parts, will check the disease in its infancy; and the animal will in general be able to rise in a few hours.

RECIPE (No. 55.)

Take Peruvian Bark, in powder, one ounce;
Ginger, and Grains of Paradise, in powder, of each half an ounce;
Anniseeds, Carraway Seeds and Sweet Fennel Seeds, in powder, of each two ounces;
Salt of Tartar, half an ounce;
Treacle, four table-spoons full;
Mix, and give it in a quart of warm gruel, with

the addition of a Wine glass full of Gin or brandy.

If the fever make but little progress, and the cow appears brisk and lively, eats her meat moderately well, and has her evacuations nearly regular, it will be proper to repeat this drink once a day, or every other day, for two or three times. Its good effects will soon be evident by its anti-febrile qualities, and by its cordial, carminative and healing tendency. It promotes the milky secretions, by destroying the acidity which has a tendency to choke up the lacteal vesseis, and brings on an inflammation in the udder. If the fever appear gradually to increase from the first attack, care must be taken or the animal will soon be in a costive state, saped, clue-bound or fardel-bound, (as it is variously called.) All these are in fact synonymous names, relating to the same thing, and may be better understood by one than the other, in different parts of the country. If, therefore, the fever continue to increase after giving the above drink, her body must be kept open by giving one of the following purging drinks. If the fever attacks the same day as she calves, and it be necessary to give her physic, give her (No. 42,) as there directed. But if on the third day, she may have (No. 10,) as there directed; and if on the fourth or fifth days, give (No. 3 or No. 4.) as directed. As soon as any of the preceding drinks have sufficiently evacuated the bowels, and nearly ceased to operate, the drink (No. 55) may be repeated; or if the fever be considerably abated, and the expense of the above be thought too great, let (No. 1 or No. 2) be given as there directed. It will be proper here to notice that in every stage of this disease, the body should be kept open with the purgative medicines before mentioned, and they may be greatly assisted by injecting the following clyster up the rectum.

RECIPE (No. 56.)

Take Linseed, in powder, eight ounces ;
Give it a boil in three quarts of water ;
Strain and add Salt of Tartar, one ounce ;
Sweet Oil, four ounces ;
Treacle, four ounces ;
Mix, and when new-milk warm inject or force it up the anus.

This clyster will lubricate the parts and soften the fæces ; it will likewise correct the acid in the rectum, which frequently prevails in this disease. Cows afflicted with the milk fever require great care and good nursing. As they are sometimes unable to take a sufficient quantity of support of themselves, it therefore becomes necessary to horn a proper quantity into them. The gruel in page 27, is well adapted for this purpose, and may be given three or four times a day, two or three quarts at a time.

SECTION XVI.

TO EXTRACT THE PLACENTA, OR THE CLEANSING, FROM THE COW AFTER CALVING.

The extracting of the *secundines*, or *cleansing* from the cow, requires care and proper management, lest violence should be used in drawing the navel-string too strongly. If the cow has gone her natural or full time, there is not the least difficulty or danger in taking it from her by manual operation, provided she be put in a proper position;—otherwise it will be impossible to take it from her without tearing.

Such persons as wish to remove the placenta, and to give the cow that ease which nature requires after pains of this kind, should observe the following rules:

First, Let the cow be taken to a proper cow-house or hovel, well littered down with clean straw, as soon as possible after calving; care must be taken that her fore parts stand on rising ground, or the ground before be higher than that she stands on behind. This will greatly assist the operator. Some cows will part with their cleansing with a little assistance while standing; others will part with it much more easily when laid down. In either case the operator must take a towel, or a whisp of hay or straw, and lay hold of the umbilical cord or cleansing, and every time she attempts to strain, draw it gently forward, if only for a few inches at a time, until you get it dislodged from its bed, and then it generally comes all at once.

There is but little chance of taking the cleansing properly away, except every attention be paid to her throes or after pains; we may assist nature very advantageously; but if we counteract her efforts, we expose

ourselves to many disadvantages. Those cows which have slinked or slipped their calves before the regular time of gestation, (and likewise such as have gone to their full time, where the cleansing has been neglected to be taken away) in a few days become so tender that the least pressure upon it will cause it to tear. In these cases it will be proper to give her two or three of the following drinks.

RECIPE (No. 57.)

Take Spermaceti, two ounces ;
Balsam of Capivi, one ounce ;
The Yolk of an Egg ;
Beat them together in a marble mortar till well incorporated ;
Then add Irish Slate, in fine powder, two ounces ;
Annis seeds, Grains of Paradise, and Carraway Seeds, fresh powdered, of each one ounce ;
Treacle, four ounces ;
Mix the whole in a quart of warm gruel, and add a wine glass of gin or brandy, and give it when new-milk warm.

It will be proper to repeat this drink every other day for three or four times. This is a most excellent drink for cows of all descriptions after calving.

In cleansing and healing those vessels which have become lacerated by the divulsion of the placenta from the uterus, as soon as the flux or discharge from those parts begins to cease, and any deficiency is found in the milky secretions, it will be proper to give them a few of those cordial drinks, No. 1 and No. 2, as there directed. These are excellent drinks for cows after calving, especially if four ounces of fresh butter or sweet oil be added to them, and the whole be given as directed.

SECTION XVII.

HOW TO EXTRACT A CALF, WHEN IT PRESENTS ITSELF IN A WRONG POSITION.

Persons of all descriptions, who have any thing to do with Neat Cattle, are or ought to be well acquainted with the manner in which a calf should present itself when in a natural or proper position.

All those positions are called *unnatural*, in which the calf presents itself otherwise than *with its head and fore feet first, and its back towards the cow's back.* It is well known to all who have the management of cows, or those who practice in medicine amongst them, that calves are very commonly presented in a variety of different postures, for which no just reason can be assigned. And whenever they present themselves in a wrong posture, both cow and calf are in danger, and that more or less according to the ability of the person employed to give the necessary assistance.

In the *first* place then, after the waters are broke, and only the head and one foot present themselves, you must lay hold of the calf's head, and wait till the throes are off, then gently push it back, and rectify the other foot; after which it may be extracted without danger.

Secondly, If the head only present itself and both feet are left behind, the head must be pushed back with a gentle hand, as soon as her throes are off, and the feet properly placed with the utmost care, lest by any means you wound or tear the uterus.

Thirdly, If all the four feet be turned where the back ought to be, towards the top of the uterus, in this situation it will be impossible to extract the fœtus until it be put in a proper position. In operations of this kind every thing depends upon the management and activity

of the person employed in putting the beast into a favorable posture. The hind parts of the cow must be sufficiently raised with straw, or otherwise with bags filled with that or any thing else that is soft and easy to lie on, and properly placed under her. By these means the person will be very much assisted in putting the calf in a suitable posture for extraction; afterwards wait a little until her throes or pains return, and then give nature your best assistance.

Fourthly, It sometimes happens that the hind legs make their appearance first; in this case it will be found better to extract them in that position, than attempt to turn them.

Fifthly, Intances frequently occur of calves being dropsical in the head; this may be known by the largeness of the latter; in which case the other parts are generally small and wasted away. Under these circumstances, if the calf cannot be extracted in the common way, the best method will be to fix a proper cord round each foot, or upon the upper or under jaw, as may be thought most convenient at the time of the operation, and then to assist the animal every time nature attempts to do its office. If, however, the calf be dead, it may be cut away with a proper knife. This requires a person of skill and experience, otherwise he may take the life of the cow.

Sixthly, Frequent instances have also occurred where the shoulder has presented itself first at the mouth of the uterus; this is a difficult case, and requires the hand to be introduced in search for the fore legs; or if thought more proper, the hind legs may be brought forward; this must be left to the judgment of the person employed.

Seventhly, It sometimes happens in cases where the calf is dead or dropsical in the head, that instruments are found necessary to be used. When this is the case the cow is mostly reduced to a weak, low and emaciated state. The instrument may be formed out of a small rod of iron, or very strong wire, sufficiently pol-

ished, with a small hook at the end. This hook must be so placed in the operator's hand as not to endanger the uterus when introduced. It must then be fixed in some part of the calf's head, as the socket of the eyes, in the mouth, or in any other part of the head as may appear most convenient at the time of extraction.—Sometimes the fœtus is so enlarged, and the womb so contracted, as not to admit of extraction. It will then be necessary to take it away by pieces. This *may* be done, but it requires a man to be well skilled in this kind of practice. The knife must be made for the purpose, and the blade be so placed in the ball of the hand, with the fore finger over the point, so as to protect the uterus from danger of being wounded.—In all cases where the cow has been roughly handled, and the inner parts much bruised, the following mixture will be found of infinite use in warming, healing and stimulating the injured parts.

RECIPE (No. 58.)

Take Compound Tincture of Myrrh, and Camphorated Spirit of Wine, of each four ounces ;
Barbadoes Tar & Olive Oil, of each three ounces ;
Sweet Spirit of Nitre, and Tincture of Opium, of each two ounces ;
Treacle, four ounces ;
Mix them all together, and keep them in a bottle for use.

The method of using these oils is as follows: take from two to four table-spoons full in the hollow of your hand, then introduce it up the matrix or womb; or a sponge may be filled with a sufficient quantity of the medicine, and introduced as above, pressed well out with the hand and brought back again. Either method will answer the purpose. Some persons, perhaps would

prefer a syringe to the former method of using the mixtures, and inject it up the uterus: this may sometimes answer, but the two former methods, I think, are by much the best.

As soon as the operation is over, give her the drink No, 57, as above directed: if this drink be not in readiness, No. 1 or No. 2 may be given. It will be necessary to repeat them for three mornings together at least. Her body likewise should be kept open with mashes of scalded bran, and a small quantity of ground oats, barley or malt mixed with it. Good nursing and proper management will soon restore the animal to her former state again.

SECTION XVIII.

THE FALLING DOWN OF THE CALF BED.

This is a complaint, or rather an accident of frequent occurrence among old cows, at the time of calving; and proceeds from the violent motions that attend the extracting of the calf, and likewise from the relaxation of the ligaments of the uterus. Some cows are more subject to the falling down of the calf bed than others; this appears in a great measure to proceed from the shape and make of the cow in those parts. The cows most liable to this complaint are those that rise considerably on the small of the back, in form of a curve and begin to lower towards the tail; the hips, rump and surloin are for the most part straight. Cows made in this form denote great weakness in those parts; and without care and proper management at the time of calving, are almost sure to have this complaint.

The observance however of the following rules, may prove a means of preventing it.

I. If they are kept in a cow-house at the time of calving, the floor or pavement should be on a level; it would be greatly to the advantage of some cows to stand higher behind than before for a considerable time before calving; as it would enable them when down, to rise with more ease, and with less danger of straining themselves.

II. If the falling down of the calf bed be suspected, the cow ought to be carefully watched at the time of calving, and as soon as that takes place, care should be taken to have in readiness a clean sheet to put underneath and around the calf bed, if she lay down, or to support it if standing, and likewise to protect it from particles of dirt or straw adhering to it, as also from the effects of air.

Then let the operator take away the placenta, or cleansing in the gentlest manner possible, lest an effusion of blood take place, and endanger the life of the animal. Afterwards bathe and wash all the parts that hang down from the uterus, with the following lotion.

RECIPE (No. 59.)

Take Rectified Spirits of Wine, eight ounces;
Camphor, sliced, one ounce;
Dissolve the Camphor in the Spirits;
Then add Goulard Water, four ounces;
And soft Water, one quart;
Mix all together, and when used let it be made new-milk warm.

As soon as the parts have been well washed or fomented with this lotion, her hind parts must be sufficiently raised, and the person's hand well rubbed over with linseed oil. Then endeavor to find the middle part of the calf bed, and by the gentle pressure of your hand, it may in general be replaced with ease and safety.

Sometimes it is with difficulty prevented from falling out a second time; when this happens take a small wire and pass it through the lips of the womb, and bend each end of the wire in order to prevent it from falling out. This may be permitted to remain there several days, or until such time as the calf bed gets properly fixed in its former situation. This will easily be known by the animal having no more symptoms to strain herself, after which the wire may be taken away.

As soon as the calf bed is properly replaced and made secure, it will be necessary to give her the following drink, which will be found of excellent use in removing those violent after-pains to which cattle in this state are liable.

RECIPE (No. 60.)

Take Peruvian Bark, White Ginger, and prepared Chalk, of each one ounce, in powder;
Anniseeds, fresh powdered, four ounces;
Tincture of Opium, half an ounce;
Treacle, four table-spoons full;
Mix and put the whole in a pitcher;
Then pour a quart of hot ale and beer mixed together, upon the ingredients, and administer when new-milk warm.

This drink should be repeated once a day, or every other day, for two or three times. Warm water mashes, and proper management, must be strictly attended to

SECTION XIX.

LOCKED JAW.

THIS disease is not so common amongst Neat Cattle as Horses. Whenever it takes place, it generally begins with a sudden stagnation of the whole system; every muscle appears seized at once, and the jaws are so fast closed as very often to require an instrument to force them open at the time of giving medicines. The first thing necessary towards a cure must be to bleed, taking away three, four, or five quarts, according to the animal's size and strength; after which give the following drink.

RECIPE (No. 61.)

Take Opium, two drachms;
Assafœtida, cut small, one ounce;
Put them in a marble mortar, and gradually add a pint of boiling water, keep constantly stirring till all be dissolved;
Then add Spirit of Hartshorn, two ounces; Ginger, in powder, one ounce;
Cayenne Pepper, half an ounce;
Treacle, four table-spoons full;
Mix them all together, and give it in a quart of warm gruel.

It will be proper to repeat this drink once or twice a day, as long as the symptoms remain violent. If this

disease attack the beast in the winter season, two or three pails of warm water may be thrown upon him, and if in the summer, cold water may be used. Afterwards let two persons, one on each side, rub him well down with a whisp of straw. This well applied all over the body, legs and ears, will very often give considerable relief. After which cover the animal down with a warm blanket, as warmth in this disease is always found beneficial. Locked jaws, or convulsions of this kind, most frequently proceed from wounds in different parts of the body, where a nerve or tendon is injured. Other causes however produce convulsions, as the taking of poison, or licking up any poisonous herbs, or insects; these irritate the stomach and intestines, by which the convulsions not only attack particular parts, but very often extend over the whole body. All such parts as are most contracted may be well rubbed two or three times a day with the liniment No. 13, which will be found to have a powerful effect in removing spasms in all parts of the body. If the symptoms are not removed in twenty four hours, the animal must be treated in the same manner as for the inflammatory fever, (*ante* Section XI.)

SECTION XX.

ON THE UTILITY OF PURGING MEDICINES IN MOST DISEASES INCIDENT TO HORNED CATTLE.

Neat Cattle are subject to a variety of different diseases as well as the Horse, though not to the same extent as the latter; this may in a great measure be owing to the labor and fatigue which the one undergoes more than the other. Physic for cattle is one of the principal remedies towards curing most fevers and inflammatory diseases when properly administered.

Nevertheless, it is seldom advisable to give physic to a beast unless it labor under some disease. I have known some graziers, who when feeding old cows (during summer) have given them several purging drinks by way of keeping off the downfall, which in general have had the desired effect. But in other respects they seldom require medicine of this nature.

Neat Cattle are by nature of a greedy and ravenous disposition, whose appetite is unbounded and hardly ever satisfied. Milch cows in particular are of this description; for if feeding on herbage, or other food agreeable to their palate, they will very often continue until they be in danger of suffocation. Thus the powers of digestion become overburthened, and a fever or other inflammatory disease is frequently induced, in which cases purgative medicines alone can give relief.

As fevers are in general accompanied with inflammation, nothing tends more to afford relief than purgative or opening medicines; they unload the stomach and intestines of a mass of indigested crudities, which so rapidly increase all diseases of this kind.

External inflammation proceeds from outward causes, such as wounds, according to their situation and extent;—bruises, and other accidents they are liable to on different parts of the body. All these produce inflammation in the part according to its severity, which affect the whole system, and bring on a fever, and if the latter be not timely removed by administering proper purgative medicines, the animal may quickly be lost. Some persons are of opinion that physic prevents the wound from forming a proper pus or matter. I have never found it so; on the contrary it always lessons the inflammation in the part affected; and the matter that is formed is in general smaller in quantity, but superior in quality, and the wounds heal much sooner.

The greatest danger attendant on wounds is when the inflammation exceeds its natural bounds, and instead of generating pus, a gangrene takes place, which if not opportunely checked, will disseminate itself through the whole system. In this case the animal will appear greatly dejected in spirits, with wildness in the eyes, the pulse being quick, low and weak *

After a gangrene or mortification takes place and enters the system, little can be expected from the aid of physic. In all kinds of fevers, whether symptomatic, local, or of primary affection, purgative medicines are of great importance; and without a free passage through the intestines there is but little hope of recovery. In different parts of this treatise a great variety of purging drinks will be found suitable for every disease; the reader is referred to those marked with the following numbers: No. 3, 4, 10, 11, 20, 27, 32, 37, 42, 46. The two first numbers, and number eleven, are chiefly in use, being of less expense than the others.

All these drinks, it should be observed, are calculated for full grown cattle. A gentleman in Retford,

* For the proper treatment in this case, vide infra, Section XXVI, On Wounds.

Nottinghampshire (England) had a cow that fed on turnips during winter; she licked up a large quantity of sand, in consequence of which she presently became saped, or bound in her body; and before a proper passage could be forced she took six drinks No. 3, every day one; at last it had the desired effect, and she evacuated a large quantity of black sand, and shortly after recovered. The remainder of the purging drinks will be found under the respective diseases to which they belong.

SECTION XXI.

THE HOOSE, OR COUGH.

Diseases of this kind are often very troublesome as well as distressing to the animal. Cows and young cattle are the most liable to complaints of this nature.

The Hoose, or Cough, proceeds from taking cold, either after calving, or from being kept in a warm hovel, and afterwards exposed to the inclemency of the weather; which producing an overflow of extraneous matter in the throat, causes a continual tickling motion in that part.

The symptoms are a shortness of breath;—a continual motion to cough or hoose, attended with great difficulty in respiration, which seems to press hard upon the diaphragm and the abdominal muscles. Without speedy relief it may bring on some local complaint, and terminate in fever or an inflammation of the lungs, and so carry off the animal The following drink will be found powerful in removing diseases of this kind.

RECIPE (No. 62.)

Take Balsam of Sulphur, two ounces ;
Barbadoes Tar, one ounce ;
The Yolks of two Eggs ; beat them well together in a large basin until they be properly incorporated ;
Then add Ginger, Anniseeds, Cummin Seeds, Elecampane Root, Grains of Paradise, and Liquorice Root, of each one ounce, in powder ;
Salt of Tartar, half an ounce ;
Honey, four ounces ;
Mix all together, and add by little at a time, (constantly stirring) one quart of warm ale or gruel. If gruel be used, add a wine glass of gin or brandy, and give it when new-milk warm.

Let this drink be repeated every other day, or every third day, for three or four times. If it be given at the commencement of the disease, one or two of the drinks are generally found sufficient to remove the complaint. Its effects are powerful in removing and carrying off the offending humors from the pulmonary vessels, and in restoring them to their proper tone again. It warms, stimulates and gives fresh action to the stomach and intestines, by which nature will return to its regular course, and the health of the animal will quickly be restored.

When this disease is of long standing, it can seldom be removed without first giving a purging drink, such as No. 3 or No. 4, and in some cases No. 10 will be preferable. After any of these drinks have been given and have ceased to operate, it will be proper to give her the above drink and repeat it as already directed. By this method of treatment, together with plenty of

good mashes, warm water and proper management, the beast will in general be soon restored, or if it be thought more proper the restorative drink No. 15 may be given as there directed.

SECTION XXII.

RHEUMATISM, OR THE JOINT FELON.

The word *felon* is of frequent occurrence in the country; it is chiefly applied to diseases proceeding from cold, and is variously called as follows: *Cold Felon, Joint Felon* and *Chine Felon.*

This is a disease of the joints, and chiefly affects milch cows and young cattle at the spring of the year; it is in general occasioned by the animals being kept in a state of poverty and starving during the winter, and being suddenly exposed in the spring to the inclemency of the north or north easterly winds in some low situations.

The following are the symptoms: The animals for the first two or three days only appear stiff in the joints; afterwards they begin to tumefy or swell, yet there is no appearance of inflammation; but a cold phlegmatic tumor arises in the joints, accompanied with a stiffness that frequently extends all over the body to such a degree that the beasts are unable to rise when down, without some assistance. Cattle laboring under this disease suffer very much from the severe pain in the parts, as well as from listlessness and inability to stir. As soon as this disease makes its appearance, the animal must be taken to a warm cow-house or stable, as warmth very much assists nature, and at the same time pro-

motes the effects of medicine in carrying off the disease. The joints and all the afflicted parts must be well rubbed with the following mixture.

RECIPE (No. 63.)

Take Neats-foot Oil, eight ounces ;
Spirits of Turpentine, and Spirit of Sal ammoniac with lime, of each four ounces ;
Camphorated Spirit of Wine, six ounces ;
Oil of Origanum, and Tincture of Opium, of each two ounces ;
Mix and shake them well together in a bottle for use.

These oils may be well rubbed in on the joints once or twice in a day ; they warm and stimulate the diseased parts, and expel that flatulency which attends tumors of this kind. There is seldom any fever in this disease, except that of a nervous kind ; the whole frame appears to be affected with a sluggish disposition, and a want of animal heat ; this by some persons is called Rheumatism, and by others the Joint Felon.

The method of cure appears to consist in giving fresh life and action to the animal, in order that nature may revive and enable it to cast off the sluggishness attendant on complaints of this kind. The following drink may be given to great advantage. I have frequently found it to give speedy relief in complaints of this kind.

RECIPE (No. 64.)

Take Gum Guiacum, and Peruvian Bark, in powder, of each one ounce ;
Annisceds Carraway Seeds, and Grains of Paradise, in powder, of each two ounces ;
Camphor, two drachms, powdered, with a few drops of Spirit of Wine ;
Treacle, four ounces ;
To be given in a quart of warm ale.

If the ale be poured hot upon the drink, the gum guaiacum must be kept out, and afterwards mixed in the drink when new-milk warm, or at the time of giving it.

It will in general be found necessary to repeat this drink every other day for a few times. At the commencement of the disease it will be easy to remove, by giving them two or three of those excellent cordial drinks No. 1 or No. 2, as there directed: these are well calculated to stir up the peristaltic motion of the stomach and intestines, and to enable nature to shake off the indisposition. In some instances this may change to the acute, or inflammatory rheumatism, which is attended with a fever, pain and swelling in the joints. When this happens, it will be necessary to keep the body open, by giving the animal one of the purging drinks No. 3 or No. 4, as there directed, and if necessary to repeat it as often as occasion may require.

SECTION XXIII.

POISONS.

Poisons may be considered under two distinct heads, the one *external*, and the other *internal*. We shall in the present section confine our attention to the latter.

They proceed from different causes during the summer season; such as eating of some deleterious herbs, or the drinking of stagnated waters that often swarm with great variety of insects of different kinds, many of which there is reason to believe are of a poisonous nature. But whether the beast have taken poison by eating of some deadly vegetable, or from drinking filth out of stagnated waters, the symptoms are a violent pain and heat at the stomach;—the body frequently swells to a prodigious size, attended with giddiness and stupidity. From whatever source the poison may have been taken, if allowed to remain in the stomach, and no attempt be made to remove it by administering suitable medicines, it generally proves fatal in a short time. Beasts when once attacked with poison, require speedy assistance; if they begin to swell, let a penknife be introduced (between the haunch bone and the last rib on the left side) into the paunch. This will instantly give vent to the foul air, and very often afford speedy relief to the animal; particularly if the poison proceeds from vegetables. As soon as possible after any beast is discovered to be in this state, let the drink No. 42 be given as there directed; but if this cannot be had in readiness, let No. 3 or No. 4 be given. These will contribute to correct the acrimony and to carry it off by stool. After some one of the aforesaid drinks has been given, it will be found necessary to administer the following, in order to destroy the ef-

fects of the poison, and to assist the purging drink in forcing a passage through the intestines.

RECIPE (No. 65.)

Take prepared Kali (commonly called Salt of Tartar) one ounce;
Castor Oil, four ounces, or in its stead, four ounces of Olive Oil, (if the former cannot be procured in time;)
Tincture of Opium, half an ounce;
Mix and give it in a quart of warm gruel.—To be repeated twice a day until the animal be relieved.

If the animal be in good conditior, let three quarts of blood be taken away. By strict attention to the above method of treatment, there will remain but little doubt of a speedy cure, which may be greatly assisted by giving a few of those excellent cordial drinks No. one or No. two.

SECTION XXIV.

THE BITE OF VENOMOUS REPTILES.

In this country we have but few poisonous animals, compared with those found in warmer climates, where they often prove fatal to both man and beast. The viper or the adder is the most common in this country, and the bite of these reptiles is often attended with dangerous consequences. Neat cattle are more liable to be stung by these reptiles than any other of the domestic animals. Some instances have been known (where the tongue of the beast has been stung while grazing) that have proved mortal. Adders seldom attack cattle, except the latter disturb them when grazing; this is the chief cause why so many are bitten about the head, and sometimes about the feet. The stings of the hornet, wasp, or bee, are attended with considerable pain and inflammation, and require a treatment similar to the former. The following liniment will be found a powerful remedy in checking the progress of the poison, and in expelling it from the part affected.

RECIPE (No. 66.)

Take Olive Oil, half a pint;
Strong Spirit of Hartshorn, four ounces;
Opodeldoc, six ounces;
Spirit of Turpentine, and Tincture of Opium, of each four ounces;
Put them all together in a bottle, and shake them well every time they are used.

Let a sufficient quantity of this liniment be well rubbed on the part affected, two or three times a day, until the swelling and inflammation abate. In some cases that are more dangerous than others, the parts affected, especially those about the head, may be fomented with the following preparation.

RECIPE (No. 67.)

Take White Poppy heads, bruised, half a pound ;
Marsh-mallow Roots, and Plantain Leaves, of each one handfull ;
Wormwood Tops, one handfull ;
Bruise them small, and boil them in two gallons of ale dregs.

Foment the parts affected two or three times a day ; after each time rub the above liniment well in. If any feverish symptoms should appear) which frequently happen during the hot weather in summer) it will be proper to take from three to four quarts of blood, and in the space of three to four hours after to give the purging drink No. 3 or No. 4, as there directed.

SECTION XXV.

THE DOWN-FALL IN THE UDDER OF COWS.

(Known also by the name of Sore Udders.)

This is a disease of the utmost consequence to the owners of Neat Cattle. Young cows in high condition are the most liable to it, especially at the time of calving. Such as are more aged are the most subject to it during hot and sultry weather, particularly those which are fattening for the shambles; when this is the case the loss is considerable, a summer's keep being generally thrown away, to the loss and disappointment of the owner.

Cows of a gross habit of body, when overheated, or when they have taken cold, are very liable to it at all seasons. This disorder makes its appearance in an inflammatory tumor, collected from a gross habit of body, and deposited upon some part of the lacteal vessels, where its presence is quickly discernible by lessening the quantity of milk, and changing it to a ragged, bloody and corrupt appearance. At other times the milk or corruption is totally stopped, and the tumor gradually increases to a state of suppuration. Where this is the case it must be opened with a lancet, or one or more of the paps may be cut off, as may appear most convenient for discharging the matter.

In some instances it may be found necessary to amputate, or cut off the whole of the udder.

When this is needful, it requires a man of skill to undertake an operation of this kind. The bleeding of these wounds must be stopped by applying the styptic powder No. 78, infra Section XXVI, which may if necessary be supported with a proper bandage across

the loins; and after the blood is sufficiently stopped, which may be expected in twelve or fourteen hours, let the wound be dressed with proper digestives. (See Section XXVI, infra on Wounds.) The author has frequently known these morbid tumors to settle down upon the hock, fetlock, or in the foot, and there discharge themselves (under proper management) in the same manner as other wounds.

It will however be of the greatest benefit to the owner to prevent this disease taking place if possible; for if permitted to proceed to the state above described, the loss of time and trouble would be considerable. It will therefore be necessary, as soon as the downfall is first discovered, if the animal be in the pasture, to fetch her out and take from three to five quarts of blood, according to her size and strength. If bled at night she may stand in an open yard till morning, and then give her a purging drink, either No. 3 or 4, as there directed; if a stout beast, add four ounces more of salts to the drink, which will be found to operate sufficiently in the space of twelve or fourteen hours; if not it may be repeated. By these means the inflammation will quickly disappear. The udder may at the same time be well rubbed with the following liniment, which will be found an excellent remedy in all inflammatory tumors in these parts.

RECIPE (No. 68.)

Take soft Soap, and Oil of Bays, of each half a pound;
Spirit of Turpentine, eight ounces, by measure;
Camphorated Spirit of Wine, four ounces;
Mix them well together for use.

Let this mixture be well rubbed on the part affected every night and morning after the cow has been well

milked; and if very bad, she may be milked in the middle of the day, and her udder well bathed with cold water. By frequent milking, and the application of the above liniment, the inflammation is generally removed in a few days. After the purging drink has ceased to operate, let the following drink be given.

RECIPE (No. 69.)

Take Aniseeds, Carraway Seeds, and Turmeric, fresh powdered, of each one ounce;
Juniper Berries, and Nitre, of each two ounces, in powder;
Resin, in powder, four ounces;
Spirit of Turpentine, four table-spoons full;
Treacle, four ounces;
Mix and give it in a quart of cold ale.

It will be proper to repeat this drink every third day for three times, or oftener if found necessary. Or the following may be given.

RECIPE (No. 70.)

Take Nitre, two ounces;
Allum, in powder, four ounces;
Dissolve them in one quart of boiling ale;
When cold add Yellow Resin, in powder six ounces;
Juniper Berries, and Ginger, in powder, of each two ounces;
Mix them all together, and give for one drink.

This may be repeated every third day in the same manner as the former; and if two or three ounces of treacle be added to it, the beasts generally take it the better.

These are excellent drinks for curing the down-fall in the udder of cows; and in all slight cases one is in general sufficient to carry it off. If it be repeated every month or five weeks, it will totally prevent its return, and give time to the animal to fatten; but if they be neglected, the season may be lost and the beasts be in a worse condition at the latter end of the year than they were before they were turned out in the spring. It therefore behoves every person to use his best endeavor to prevent this disease, and if possible not to suffer it to proceed to a state of suppuration.

Should any reason be required why this disease is called by the name of Downfall, the author begs leave to state that it is universally understood by that appellation in Retford, Nottinghampshire, (England) and by no other. The different authors who have written upon neat cattle, say very little upon this complaint, and that chiefly under the name of sore udders.

A person in the neighborhood of Retford, had a large cow of gross habit of body, that had been accustomed to have this complaint several times in the course of the summer, which was of considerable disadvantage. The summer after he determined to dry and feed her; she had not been long at grass before she was attacked with the same complaint; he was advised to give her a pound and a quarter of glauber salts every six weeks during the time of feeding; this prevented a return, she fatted and did well.

SECTION XXVI.

WOUNDS.

Wounds are common to horned cattle as well as others, and may be defined to be a division or separation of some of the parts of the body; and it is of considerable importance to know how to treat them in all their different situations in the body, as the management must vary according to the part where the wound is situated, and the circumstances under which it takes place. The animal's constitution and habit of body must also be considered as well as the immediate structure of the divided substance; and whether the wound be made with a sharp instrument or a blunt one; if with the former, and the wound be not considerable, it will be advisable to attempt a union by the first intention, which may be performed in the following manner.

First cleanse the wound from dirt and all extraneous matter; then pour in a sufficient quantity of the Tincture of Benzoin, and bring the edges of the wound together and close it neatly with a proper suture as follows: take a flat, crooked needle and a thin white leather cord well tallowed; if silk or thread be employed (which are most common in use for purposes of this nature) they are required to be doubled several thicknesses, or otherwise they will be apt to cut themselves out; but white leather is preferable to either of the other. Every stitch across the wound should be tied, and one inch should be allowed between every stitch; this will in general be found sufficient for most purposes. When the parts are properly closed take a pledget of tow or lint, and soak it in the Tincture of Benzoin and apply it over the mouth of the wound; then secure it well with a bandage or roller. The bandage may be taken

off once a day, and fresh pledgets soaked in the same tincture be applied, and rolled up as before. This kind of union it is very difficult to accomplish on the ox, except on the lower extremities.

Cattle are more liable to accidents of this kind in the summer than at any other time, in consequence of their gadding about and breaking out of their pastures; likewise when strange cattle are intermixed, they often fight, and are apt to gore one another with their horns.

Wounds that are in a fleshy part, deep and considerably bruised, require a different treatment.—The inflammation is very often great; in which the constitution appears to sympathise; the pulse is attended with hardness, and feverish symptoms begin to appear. Unless the wound take a favorable turn a gangrene will ensue, which indicates an approaching mortification, and if it be not timely checked death may be expected.

In cases so desperate every means should be used to support the animal, and to check the gangrenous serum, in order that suppuration may be promoted: this may be attempted in the following manner:

First examine every direction of the wound with a proper probe where it can be had; if this cannot be procured, the safest way is to use a candle, which is preferable to a probe in all deep wounds in a fleshy part. Then take a sufficient quantity of finely powdered nitre and sprinkle it over the wound both inside and out; rub it gently in, and afterwards dress the wound with the following styptic oils.

RECIPE (No. 71.)

Take Linseed Oil, one pint, put it in a pot that will hold three times the quantity;

Then add by little at a time two ounces of Oil of Vitriol, and keep it constantly stirring until united;

Add Spirit of Turpentine, half a pint ;
Mix by a little at a time and keep stirring till it is united. By this method they will be properly mixed ; otherwise they will not act so powerfully as they should.

The manner of using these oils will depend in what part of the body the wound is made, and the position into which it may be necessary to put the animal at the time of dressing. Let a sufficient quantity be poured into the wound, and gently rubbed round with the finger, if long enough to reach the bottom ; if not let a candle be employed. Thus the oils may be introduced to the bottom of the wound.

Where however this is not practicable, a tent of tow or liut may be dipped into the oils and introduced to the bottom with a probe. The tent must be sufficiently long so as to admit of one end hanging a little out of the wound, by which it may be taken out at pleasure and fresh put in. These oils warm and stimulate the injured part, and quickly put a stop to all gangrenous appearances to which wounds of this nature are liable. Oils so powerful as these seldom require to be used more than once or twice, and that chiefly in wounds that are deep and much bruised, where there is some tendency towards a gangrene.

Such wounds as have been neglected at first, and which have assumed a gangrenous disposition, may be dressed with strong oil of vitriol, by dipping a skewer in it and applying it all over the wound for several times together. Immediately after using either of the above, let the wouud be dressed with the following digestive ointment.

RECIPE (No 72.)

Take Yellow Basilicon Ointment, half a pound ;
Black Pitch, Strained Turpentine, Tar, and Linseed Oil, of each four ounces ;
Melt them all together ;
Then add Spirit of Turpentine, four ounces ;
Mix and keep it in a pot for use.

The best method of using this ointment is, to take care that it penetrate to the bottom of the wound; which may be done by putting the beast in a proper position. Then take a sufficient quantity of the ointment and melt it in an iron ladle, and pour it new-milk warm into the wound; cover it over with a pledget of tow dipped in the same and fasten it on, either by a roller or by taking a few stitches across. The wound may be dressed once a day, every other day or every third day, as may be thought necessary. If the inflammation and swelling be considerable it may be fomented, after the wound has been dressed, with the following fomentation.

RECIPE (No. 73.)

Take Camomile Flowers, four ounces ;
White Poppy heads, twelve in number ;
Linseed, bruised, half a pound ;
Marsh-mallow roots, and Elder leaves, bruised, of each one handful ;
Boil them in two gallons of ale dregs.

Foment all the parts affected two or three times a day with hot flannels, well wrung out of the above fomentation; after each time let the tumor and all about the wound be well rubbed with the following softening liniment.

RECIPE (No. 74.)

Take Oil of Bays, Elder Ointment, and Marsh-mallow Ointment, of each four ounces;

Camphor, one ounce dissolved in four ounces of Spirit of Turpentine, by rubbing in a marble mortar.

Then mix the whole together and keep it well tied down in a pot for use.

This liniment will be found excellent for softening all kinds of hard tumors about wounds, and removing the inflammation. If strict attention be paid to the above described method of application, the wounds though ever so bad, may in a short time be brought to a state of suppuration, by which the swelling and inflammation will quickly disappear; and the bottom of the wound will begin to heal and fill up with little granulations of flesh, as the discharge begins to diminish; in cases of this kind it frequently happens that these granulations become too luxuriant, and require the application of medicine to keep them down.

Proud flesh in recent wounds, differs in general from that in old wounds: the former may easily be kept down with the following powders, whilst the latter will require much stronger caustic medicines.

RECIPE (No. 75.)

Take Resin, in powder, two ounces ;
Bole Armenic, in powder, one ounce ;
Burnt Allum, in powder, half an ounce ;
Mix them all together, and keep them in a bottle for use.

After the wound has been dressed with the digestive medicines, as stated before, sprinkle or dust these powders all over the surface once or twice a day. If the wound only require healing, it may be first anointed with the following tinctures, and the powders afterwards be dusted on.

RECIPE (No. 76.)

Take Tincture of Benzoin, and Tincture of Myrrh, of each two ounces ;
Aqua Fortis, half an ounce ;
Mix them gently together, and keep them in a bottle for use.

These powders and tincture will generally be found sufficient to keep down all superfluous flesh and assist nature in healing up the wound.

Wounds that penetrate into the cavity of the chest require nearly the same treatment as other fresh wounds; in some cases it will be advisable to omit using the styptic oils No. 71. Wounds of the abdomen or belly require persons of skill and judgment in the proper management of them; for if any of the intestines should hap-

pen to be displaced or exposed to the air, it might endanger the life of the animal. The following lotion will be found adequate for puposes of this kind.

RECIPE (No. 77.)

Take Nitre, in powder, half an ounce;
Goulard, two ounces;
Camphorated Spirit of Wine, four ounces;
Soft Water, one pint;
Mix and keep in a bottle for use.

In all accidents where part of the intestines is exposed to the air, they may be well bathed or fomented with this lotion new-milk warm; afterwards anoint them over with the liniment No. 74, then endeavor to replace them, and support them with a roller or bandage. The diet of the animal in cases of this kind should chiefly consist of bran mashes, with a little ground barley, and powdered linseed mixed with it.

Hemorrhages in wounds frequently happen; it is therefore highly necessary that every one should be acquainted with the course of the arteries. Whenever a considerable blood vessel is wounded or divided, and the hemorrhage likely to prove dangerous, our first care must be to stop the bleeding by pressure, provided the wound be in a situation to admit of the application of a roller or bandage. Pressure where it can be properly applied, is certainly the best remedy; but as there are many cases that will not admit of this treatment, the stoppage of blood may be attempted by actual cautery, where the part will allow it; otherwise the following styptic powders may be used. Sometimes however, it is more convenient to tie up the blood vessel; but these circumstances must be left to the judgment of the operater at the time.

RECIPE (No. 78.)

Take Blue Vitriol, White Vitriol, Green Vitriol, Allum, fine Flour, and Bole Armenic, of each two ounces ;
Powder, and mix them all together for use.

The mouth of the divided vessel must be covered over with a sufficient quantity of these styptic powders, and pressed to with lint or tow, and then well secured by a roller or bandage.

SECTION XXVII.

WOUNDS OF THE JOINTS.

THESE are not so common among Horned Cattle as among Horses. The former are seldom troubled with any thing more in these parts than those wounds which are of a common nature, and which generally heal by the first intention ; while the latter are subject to severe contusions that often render them of little use afterwards.

The treatment of wounds in the joints greatly depends on the manner in which they have been received.

Such as are attended with severe bruises, are more difficult to heal than those received from a cut or rent. All recent wounds that are attended with swelling and inflammation, it will be necessary to foment with the fomentation No. 73, as there directed ; after which rub

them well with the liniment No. 74, and dress the wounds with the digestive ointment No. 72. These dressings should not be persisted in more than three or four days, or till the inflammation and swelling begin to subside, otherwise they might occasion a discharge of Synovia or Joint Oil. The following compound mixture, therefore, will be found adequate to the cure of most wounds in the joints of horned cattle.

RECIPE (No. 79.)

Take Mel-Egyptiacum, two ounces ;
Tincture of Myrrh and Aloes, and Tincture of Benzoin, of each two ounces ;
Aqua Fortis, half an ounce ;
Mix and keep them in a bottle for use.

The wound if possible ought to be filled with this mixture, either by injection or pouring it in, and its mouth should immediately after be stopped up with lint, to prevent its running out, and supported with a roller or bandage. This method if proceeded in, will in most cases be found sufficient to cure all wounds in the joints of horned cattle.

SECTION XXVIII.

STRAINS AND BRUISES.

THESE accidents befal cattle of all descriptions daily; and as most persons are well acquainted with them they require but little description here. Horned cattle are not so liable to strains as the horse, which perhaps may be accounted for in the following manner. The horse exerts himself more than the ox in all his paces; indeed the labor of the latter is but a trifle compared with that of the former, when we consider the great exertion they frequently undergo. Strains or bruises may affect either the muscles, ligaments or tendons. Strains of the former are generally attended with considerable inflammation, and the latter with a rupture or breaking down of the tendon; but this last is not so common among horned cattle. Strains of the stifle, whirl-bone and back, are very frequent among these animals, and are chiefly occasioned by one beast riding or romping the other. The cure in all the different parts must first be attempted by removing the inflammation and swelling. The following mixture will be found suitable for every purpose of this kind.

RECIPE (No. 30.)

Take Spirit of Sal-ammoniac, with lime, two ounces;
Oil of Olive, four ounces;
Spirit of Turpentine, and Camphorated Spirit of Wine, of each four ounces;
Mix, and keep them in a bottle for use.

These oils will be found excellent for all kinds of strains, bruises and hurts in different parts of the body. Let them be well rubbed in on the part affected once or twice a day; and if necessary they may be assisted by fomenting the part first with No. 73, as there directed. If any feverish symptoms should appear, it will be proper to keep the body open by giving the purging drink No. 3. Strains of the hip joint, shoulder, stifle, and back, being more deeply seated, require a more powerful application than the former.

RECIPE (No. 81.)

Take Opodeldoc, four ounces;
Spirit of Sal-ammoniac, with lime, and Spirit of Turpentine, of each two ounces;
Oil of Origanum, one ounce;
Oil of Olive, two ounces;
Cantharides, in powder, two drachms;
Mix them together, and keep them in a bottle for use.

These are powerful oils in curing deep seated strains in fleshy parts of the body; they will be found to dissolve the coagulable lymph which often remains in strains of long standing. They must be well rubbed on the part affected once or twice a day, as may be thought most proper. After the pain, inflammation, and the effects of the oils are gone off, a weakness in the part frequently remains for a considerable time, which may be removed by applying the following strengthening plaister.

RECIPE (No. 82.)

Take Black Pitch, half a pound ;
White Pitch, four ounces ;
Compound Litharge Plaister, and Strengthening Plaister, of each two ounces ;
Melt them over a slow fire ; when dissolved, take them from the fire and add Grains of Paradise and Cummin Seeds (fresh powdered) of each one ounce ;
Stir them well together, and when new-milk warm apply the plaister all over the part affected with a spatula, and immediately cover it over with short wool, or a flannel bandage, if more proper for the situation.

This will warm and strengthen the parts ; if it be stuck on with wool, let it stop until it fall off of itself ; but if with flannel, cut the stitches in a month after, and then let it take the same course.

SECTION XXIX.

CANCEROUS ULCERS.

THESE are the most difficult to heal of any ulcers to which horned cattle are liable. They generally make their first appearance in a hard livid tumor, seated in some of the glandulous parts of the body. Some of these are moveable and others more fixed; some are inflamed and quickly break out and discharge a thin acrid ichor; at other times they discharge a thick yellow matter, and the wounds are apt to fill up with fungous flesh. The author has seen several ulcers of this description that have baffled the powers of medicine to heal them. These have been chiefly on the cheeks, eye lids, and on the glands between the jaw bones.—They are supported by a scrophulous tendency of the neighboring fluids.

The cure greatly depends on the part of the glands where the ulcer is seated. There are some parts that will admit of a total extirpation; which may be done with a suitable knife, or (if preferred) by actual cautery. Some persons indeed attempt to remove every excrescency by means of caustics. The choice of these different methods must be left to the judgment of the operator, who will in course adopt that which is most convenient at the time of operating. After the wound has been thoroughly cleansed from all extraneous matter, let it be touched all over with lunar caustic, or sprinkled with red precipitate; and afterwards dress it with the following mixture.

RECIPE (No. 33.)

Take Egyptiacum, four ounces ;
Compound Tincture of Myrrh, and Spirit of Turpentine, of each two ounces ;
Sublimate, in fine powder, two drachms ;
Spirit of Salt, half an ounce ;
Mix and keep them in a bottle for use.

Let the wound be dressed with small pledgets of lint or tow, dipped in this mixture, once a day ; and if any superfluous flesh should appear, it will be necessary to keep it down with the above caustic ; or instead of this the wound may be sprinkled all over with the powders No. 78, before it be dressed with the mixture. As wounds dressed with the above seldom fill up in the same manner as those which are dressed with digestives, it may therefore in some cases be advisable after the wound has been well cleansed, and the acrid discharge has been stopped, to use one part of the digestive ointment, No. 72, and two parts of the above mixture well mixed together on a slab with a spatula. The wound may be dressed once or twice a day with this spread on lint or tow.

Purging is sometimes advisable in cases of this kind, and may be administered once a week for three or four weeks together. Either of the purgatives No. 3, 4, or 26 may be given as there directed ; by these the great flux of tumors will in some measure be carried off by stool, and cause the above medicine to act more powerfully on the wound. When these hard excrescent tumors, or schirrous swellings of the glands first make their appearance, they may with ease be removed by the following mercurial ointment.

RECIPE (No. 84.)

Take Quicksilver, half a pound ;
Strained Turpentine, four ounces ;
Spirit of Turpentine, two ounces ;
Rub them together in a marble mortar until all the globules of the silver disappear ;
Then add Hog's Lard, one pound ;
Work them well together till properly incorporated, and keep the mixture in a pot for use.

A sufficient quantity of this ointment must be well rubbed on the parts affected once a day for eight or ten days successively. Then leave off the dressing for a month; and if any substance remain after that time the ointment may be repeated as before. In some cases perhaps the following compound mercurial ointment will be more efficacious.

RECIPE (No. 85.)

Take Mercurial Ointment, No. 84, two ounces ;
Strong Aqua fortis, two drachms ;
Mix them well together ;
Then add Cantharides, in powder, two drachms ;
Mix the whole together for use.

This must be well rubbed on the part affected every morning for five or six days together; then leave it off for a month or six weeks, and if the tumor be not dispersed in that time, repeat the unction a second time as before. In this manner it may be repeated as often

as may be found necessary. There is no danger in the application of either of these ointments on any part of the animal's body, provided they are prevented from licking it.

SECTION XXX.

THE FOUL IN THE FOOT.

This appears to proceed from the habit of body more than from any external cause. Horned cattle of all ages are liable to this complaint; but cows of a gross habit of body suffer most by it. It generally first makes its appearance betwixt the claws or hoofs in the form of a hard crack, attended with considerable inflammation, and in a short time will discharge a fetid and offensive matter, similar to that of the grease in horses heels. At other times it makes its appearance in the form of a large tumor upon the cornet between the hair and the hoof, attended with violent pain and inflammation — This I conceive to be similar to the downfall, and to proceed from the same cause, though not in the same place (one being seated in the udder and the other in the foot.) The pain is often so considerable, as to reduce them of their flesh till they become a mere skeleton. If this disease first make its appearance between the claws, wash the part clean from all dirt and filthiness; when dry, take a pair of cow-hopples, such as are used for tying their legs at the time of milking, or a rope of the same thickness; and then chafe the part affected betwixt the claws till all of a glow, afterwards dress the part with a wood skewer dipped in butter of antimony, oil of vitriol, or aqua fortis, and let them stand

dry one hour after. This may be done for two or three days together; but if the part swell and appear much inflamed, let it be well rubbed all over with the liniment No 74, and then if the tumor be likely to suppurate, apply the following poultice.

RECIPE (No. 86.)

Take Tar, one pound, and melt it over the fire;
Then add Linseed, in powder, half a pound;
Mix, and when new-milk warm apply it on the part affected.

The liniment and poultice must be repeated once a day until the tumor is sufficiently ripe to be opened with a lancet; afterwards dress the wound with No. 83, and continue the poultice and liniment until the inflammation and swelling be reduced, and the parts acquire their former state. The cure may be finished by continuing to dress the wound with No. 83, or if that be thought too strong, the sublimate may be omitted.—When the foul appears to proceed from a superabundant flow of humors collected from different parts of the body and settled down into the foot, the cure may be accelerated by giving the beast a purging drink No. 3 once a week, for two or three weeks, as there directed.

SECTION XXXI.

TO DRY A COW OF HER MILK.

This is a subject with which every gentleman grazier ought to be well acquainted. It is frequently found necessary to dry cows of their milk at all times of the year, in order that they may the better be fed for the shambles. Some cows are more difficult to dry than others, by reason of their giving so large a quantity of milk, and the gross habit of body peculiar to some beasts.

Without great care and management these will be liable to the downfall, either in the udder or foot; or otherwise it may terminate in some fatal inflammatory disease.

Cows that are apt to milk themselves, are difficult to dry; they should therefore be dried early in the spring while at dry meat. Others may be dried either in the pasture or in any other place. Such cows as are in the pasture, give a considerable quantity of milk, and are in good condition, ought to be fetched into a foldyard over night, and from three to four quarts of blood taken from them. The next morning give the following drink.

RECIPE (No. 87.)

Take Roach Allum, in powder, six ounces; (if a large beast eight ounces;)
Bole Armenic, in powder, two ounces;
Mix, and put them in a pitcher, then pour a pint and a half of boiling ale upon the ingredients. Afterwards add one pint of good Vinegar, and give it when new-milk warm.

The cow must be milked clean at the time the above drink is given, and two hours after may be turned into her pasture. About four days after, if her udder appear hard and full, let her be fetched out of the pasture, milked clean, and the drink be repeated as before.

This is generally sufficient to dry any cow of her milk; but as some cows give so much that it renders them very difficult to dry, it is therefore frequently found necessary to repeat the drink and milking every fourth day, for three or four times, before they can be completely dried. Or the following drink may be given, which is equally as useful as the former, if not more efficacious.

RECIPE (No. 88.)

Take Red Wine Tartar, in powder, one pound;
Treacle, four table-spoons full;
Put them in a pitcher, and pour three pints of boiling water on them;
Stir the whole together, and give it when new-milk warm.

This is a powerful drink for the purpose as well as the former; yet in order to gain a little more time (as some persons are very impatient) it may be necessary to change the drinks, provided they be of equal efficacy; another formula is therefore subjoined.

RECIPE (No. 89.)

Take Allum, in fine powder, six ounces;
Red Wine Tartar, in powder, half a pound;
Bole Armeuic, in powder, two ounces;

Treacle, four table-spoons full;
Mix and put them in a pitcher, and pour a quart of boiling water upon the ingredients. Then add a pint of good Vinegar, and give to the cow new-milk warm.

These are two excellent drinks, as well as the former, and are equally powerful, if not more so in drying up their milk. They may be repeated in the same manner as the first. If one of those drinks were given every month during the summer, to cows that are of a gross habit of body, it would prove a means of preventing that dreadful disease the downfall in the udder which often baffles the skill of persons well acquainted with the diseases of horned cattle in general.

SECTION XXXII.

ANGLE-BERRIES.

THESE are cutaneous tumors growing out above the surface of the skin, and of different sizes, with a very disagreeable appearance. Young heifers, or cows of their first and second calves, are the most subject to them. These fleshy excrescences make their appearance on different parts of the body.

Those upon the udder are not only disagreeable, but cause the cow to be very troublesome to milk.—They rise from a small base, and hang in a pendulous form, of different sizes. The common method made use of to extirpate these excrescences, is to fix a ligature round

their bases, and to suffer them to rot off themselves. Others, after they have been well secured with a strong cord or twine, will cut them off with a sharp knife, and anoint the part with oil of vitriol. But the most ready and effectual way is to throw the animal down and take hold of the angle-berry at the base with a pair of broad flat barnacles (such as are used in farriery;) then take a firing iron, after it has been sufficiently heated, and sear or burn it off; touch the seared part all over with a skewer dipped in oil of vitriol or aqua fortis. Either of these will destroy the roots, and prevent them from growing again; but if they be attended to in time, before they come to their full growth, they may be eradicated by applying the following ointment.

RECIPE (No. 90.)

Take Green Vitriol, White Vitriol, and Blue Vitriol, of each one ounce, in fine powder;
Camphor, two drachms, dissolved in half an ounce of Rectified Spirit of Wine;
Sugar of Lead, half an ounce;
Hog's Lard, half a pound;
Mix them well together on a slab, and keep in a pot for use.

A small quantity of this ointment must be rubbed on the angle-berries, warts, or any excrescences that may grow upon the udder or other part of the body, every night and morning. This ointment will gradually waste them away without injuring any other part.

SECTION XXXIII.

SORE TEATS.

Some cows are more subject to sore teats than others; they are liable to this complaint at all seasons of the year, particularly such cows as have newly calved. If the teats be afflicted in the summer, they often become ulcerated, and the flies plague and teaze them to such a degree as to render it difficult to milk them. It is a great nuisance at the time of milking, as blood and corruption are liable to pass between the fingers into the milk. The following ointment ought always to be kept in readiness for purposes of this kind.

RECIPE (No. 91.)

Take Elder Ointment, six ounces;
Bee's Wax, two ounces;
Melt them together, and add Sugar of Lead, in powder, one ounce;
Alum, in powder, two ounces;
Mix and stir them together till nearly cold.

The cow's teats may be well rubbed with this ointment every night and morning after milking.—If in the summer, and the flies plague them, add one ounce of assofœtida, in powder, and dissolve it along with the ointment and wax. This will prevent the flies from teazing the animal.

SECTION XXXIV.

THE MANGE.

This disease is well known to most graziers, and therefore requires but little description. It is seated in the skin, and for the most part proceeds from scanty keep during the winter: it makes its appearance early in the spring, as soon as the warm weather begins to set in.

The symptoms are as follows: the skin or hide appears fast on all parts of the body; and every time the beasts rub themselves, the hair comes off, and a thick white scurf, of a scabby appearance, is to be seen in a short time after.

In the cure of this disease, mercurial ointment cannot be used with any degree of safety among horned cattle, as there is hardly a possibility of preventing them from licking themselves. Either of the following ointments therefore, may safely be used in all diseases of this kind.

RECIPE (No. 92.)

Take Hog's Lard, two pounds;
Spirit of Turpentine, half a pint;
Put them in a pot that will hold twice the quantity; then gradually add Oil of Vitriol, two ounces, and keep gently stirring until mixed. Afterwards add Sulphur Vivum, in fine powder, half a pound;
Mix them all well together for use.

Or the following may be used, if thought more proper.

RECIPE (No. 93.)

Take Soft Soap, one pound;
Hog's Lard, one pound;
Spirit of Turpentine, one pint;
Flowers of Sulphur, half a pound;
White Hellebore, in powder, half a pound;
Pearl Ashes, in powder, two ounces;
Mix them all together into an ointment.

All the infected parts must be well rubbed with either of these ointments, every third or fourth day, for three times. Let it be done under a warm shade, when the sun is out, or otherwise an iron should be heated and held at a proper distance, whilst another rubs it on. Thus the medicine will produce a good effect, and very often in slight cases one dressing will be found sufficient if the ointment be well applied. At the same time it will be necessary to give the following drink.

RECIPE (No. 94.)

Take Anniseeds, and Carraway Seeds, fresh powdered, of each two ounces;
Grains of Paradise, and Nitre, in powder, of each one ounce;
Flour of Sulphur, two ounces;
Crude Antimony, in fine powder, half an ounce;
Treacle, four table-spoons full;
Mix for one drink, and give it in a quart of warm ale.

This drink may be repeated every third day for three times, or oftener if necessary. It will be found to possess the requisite quality of promoting the animal secretions, by which nature will be regenerated.

SECTION XXXV.

LICE IN CATTLE.

Lice in cattle, like the former disease, require no description, as this filth is always visible to the eye; if not, by shedding the hair they will soon be made to appear. The cattle most subject to lice are those which through bad keep and poverty are reduced to a low state; so that nature is not able to cast off her old coat; in consequence of this an extra harbor is left for the vermin to accumulate in.

Different kinds of medicines have been applied for the destruction of these lice. Mercurial ointment (such as is used for the scab in sheep) would prove the most effectual in destroying them, if it could be used with safety; but as beasts are so liable to lick themselves, it would endanger the life of the animal, by bringing on a salivation upon the glands. It will therefore be better to omit its use and apply the following, which will be found equally efficacious.

RECIPE (No. 95.)

Take Hog's Lard, two pounds;
Spirit of Turpentine, half a pint;

Oil of Vitriol, one ounce ;
Mix them gradually, and when united, add Whale Oil half a pint ; and. Stavesacre, in powder, half a pound ;
Mix all together into an ointment.

A sufficient quantity of this ointment may be rubbed on all parts of the body where lice are found, and repeated a second time in five or six days after: twice dressing is generally sufficient to clear them of filth of this kind. Or if the practitioner thinks proper, he may use the ointment No. 92 or 93, which in general proves of equal efficacy to the above. It will be necessary to give to cattle when reduced to so low a state, a good nourishing drink or two, such as No. 1 or 2, as there directed.

SECTION XXXVI.

WARBLES.

These proceed from a fly, well known by the name of the *Gad Fly*, *Breeze* or *Ox Fly*, which punctures small holes in the backs of horned cattle, and there deposits its eggs. These being speedily hatched by the heat of the animal's body, a small tumor arises, containing a grub, and having a small hole in its centre, that answers as a breathing place for the insects, and also to cast out the superfluous matter, which if confined, might soon produce a large abscess and destroy the grub.—Country people frequently dislodge these creatures by

pressing the fingers and thumb on each side the lump. The readiest way of destroying these worms is to pull off the scab that generally covers the mouth of the hole, and pour a few drops of the black oils No. 71 into the orifice of the wound, or a few drops of spirits of turpentine may be used where the other is not in readiness.

SECTION XXXVII.

TO MAKE A COW TAKE THE BULL.

It is sometimes necessary to promote this desire in cows, as otherwise the most profitable time for making butter and cheese might be lost; but it is very rarely wanted if the animal be healthful and in good condition: and it is much better when nature is permitted to perform her own office; but this cannot always be dispensed with. The following drink therefore may be given.

RECIPE (No 96.)

Take Anniseeds, Grains of Paradise, and Bay Berries, fresh powdered, of each two ounces;
Cantharides, in powder, two drachms;
Mix them all together for one drink.

This drink may be given in a quart of warm milk at any time of the day; and if convenient let them stand two hours after without meat; then turn them into their pasture, or feed them as usual. If this drink has the desired effect, the cow will take the bull in the course of eight or ten days; if not the drink may be repeated with the addition of half a drachm more of cantharides added to it. If she be a very large cow the quantity of flies may be increased to three drachms; but this is very seldom necessary. It is best to give this drink on a full stomach, as it will be less liable to bring on the strangury. But if the latter should take place give her the following drink.

RECIPE (No. 97.)

Take Nitre, in powder, two ounces;
Sweet Spirit of Nitre, one ounce;
Tincture of Opium, half an ounce;
Mix and give in a quart of Linseed Tea.

This drink may be repeated if found needful.

SECTION XXXVIII.

BULL BURNT.

THIS is a local disease, affecting the sheath of the bull; the parts become foul and full of cancerous ulcers, which inflame the bull's yard or pizzle, and cause the sheath to swell. The most effectual way of curing this disease is to throw the bull down and turn him on his back, with his belly upwards. Then take a linen cloth and fold it round his yard and gently draw it out of the sheath, till you can see to examine all the ulcerated parts, which should be bathed and washed with the following lotion.

RECIPE (No. 98.)

Take Camphorated Spirit of Wine, four ounces;
Sugar of Lead, one ounce;
White Vitriol, two ounces;
Soft Water, one quart;
Mix and keep them in a bottle for use.

The bull should be dressed twice a week with this lotion, and kept from bulling cows until well. Care must be taken every time he is dressed, that every part is properly washed or bathed with the mixture. Or he may be dressed in the same manner with the following mixture, which is more powerful.

RECIPE (No. 99)

Take Sugar of Lead, White Vitriol, Blue Vitriol, and Bole Armenic, of each half an ounce ;
Boiling Water, one pint ;
Mix, and when new-milk warm, put them in a bottle for use.

This is a very powerful mixture, but should not be used the first time of dressing ; afterwards it may be used with safety. During the time of his getting better, it will be proper to give the bull the purging drink No. 3 or 4, with the addition of four ounces more of salts. Give the medicines as directed in the pages here referred to ; and repeat it once a week for two or three times.

The matrix, or womb of the cow is sometimes affected by the bull, which causes the parts to inflame and swell, likewise to discharge a disagreable ichor ; at the time of staling she appears to have considerable pain. All the parts that appear to be infected must be bathed with the lotion No. 98 ; the other being too strong for the cow ; and a linen rag may be soaked in the lotion, folded round the finger and introduced into the womb, or injected up with a syringe. A few dressings will in general be found sufficient.

SECTION XXXIX.

PROPER TREATMENT OF COWS THAT SLINK OR SLIP THEIR CALVES.

ABORTION, or cows slipping their calves in an early period of gestation, is a great misfortune to the owner. It appears that cows in the best condition are the most liable to this misfortune. It is sometimes occasioned by accidents, which frequently happen to them during the summer. At other times it has appeared of an epidemical nature; several having slipped their calves in the course of a few days; in this case it appears to proceed from debility, and a relaxation of the generative parts.

Cows are the most liable to slink their calves towards the latter end of the year, while feeding on fog or autumnal grasses, or on low marshy and fenny grounds; and at other times it has proceeded from the smell of carrion, which may have been exposed in the pasture, or too slightly covered with earth. The sense of smell in horned cattle is remarkably acute; the author has known them on a warm day, in an open pasture, collect in great numbers to a particular spot where some dead carcases had been buried several years, and with their horns and feet tear up the ground in a surprising manner, at the same time making a most horrid noise. Cows that are in danger of slipping or slinking their young before their due time of gestation, should be taken from the pasture over night, and from two to three or four quarts of blood should be taken from each beast, which ought to stand in the open yard till next morning; then give the following drink.

RECIPE (No. 100.)

Take Allum, in powder, six ounces ;
Peruvian Bark, in powder, half an ounce ;
Aniseeds, fresh powdered, two ounces ;
Treacle, four table-spoons full ;
Mix for one drink.

Put the drink in a pitcher, and pour a quart of boiling water upon it; cover it down till new-milk warm, then give it to the beast. This drink is by no means expensive, and may therefore be repeated in eight or ten days, when there is every reason to believe that it will produce the desired effect.

Some cows are constantly a bulling every fortnight or three weeks during the summer. A better drink cannot be given to put a stop to this, and also to make her hold to the bull. The drink should be given to the cow two hours after bulling; it strengthens and braces the parts of generation; and if she be in good condition, let two quarts of blood be taken from her.

SECTION XL.

THE NATURE AND PROPERTY OF THE BLOOD.

This liquor may justly be called the element or life of animal nature, which is always in a continual motion, circulating through the veins and arteries of all living animals. On a slight examination it may appear hemogenous, but it consists of very dissimilar parts. When blood is first taken from the animal it very soon loses its volatile part, which flies off in the form of a vapor, and as soon as the vapor is dissipated, the blood congeals and becomes a trembling mass.

The principal part of this coagulated mass is the cressamentum, which contains the red color, and gives it to the other parts. There is also the serum, or watery part of the blood, from which is formed the crust on its surface after taking it from a vein. In this serum, besides the albumen, (which hardens like the white of an egg) there is a considerable portion of water, likewise a small quantity of ropy mucus; besides these there is a small portion of sea salt, fine chalky earth of iron, and of fixed air; to which may be added the elementary fire. By the joint co operation of the whole, life is infused into all parts of the body. It appears that the natural elements of the blood formed by the animal economy, are the albumen and the globules. The albumen is the immediate matter of growth and nutrition. The globules never pass the emunctories, except by violent exertion or disease; the saline, acid, morbid, bilious and other particles that are found in the circulating blood, are rather heterogeneous than elementary parts of it. When the animal is in full health and vigor of constitution, the blood is mild and gelatinous, but by

disease is often rendered very acrid. Those who are desirous of further information on this subject are referred to the works of Doctor Hunter.

SECTION XLI.

BLEEDING—ITS UTILITY, AND IN WHAT CASES NECESSARY.

Bleeding, when properly employed, is productive of great and good effects, as also of much injury when improperly resorted to. It is useful in checking the progress of all inflammatory diseases. The following are the chief symptoms that indicate bleeding to be necessary; viz.

I. Where animals in a thriving state rub themselves until they fetch off the hair, the spot being frequently covered with a dry scab; in this state not more than half the usual quantity should be taken at one time.

II. In all kinds of inflammatory diseases where the eyes appear red or inflamed, and the veins puff up and seem considerably larger than common.

III. In fevers, bruises, hurts, wounds upon the head, strains in different parts, and

IV. In all other accidents that may occur to the animal where there is reason to apprehend a stagnation of blood.

The manner of performing this operation is too well known to require any description.

The fleam is an instrument in general use for oxen; the quantity of blood that may be proper to take away at one time cannot here be determined; but must be regulated according to the size, condition, and the dis-

case under which the animal may labor at the time. In many inflammatory diseases too much can hardly be taken, provided the beast be not faint or likely to fall down. A strong healthy beast will bear the loss of three or four quarts of blood without the least injury; larger cattle that are attacked with inflammatory fevers, will bear a larger proportion to be taken away at once than usual, from four to six quarts; but it will be found better in these diseases not to take away too large a quantity at a time, but to repeat it occasionally. The animal should neither be suffered to drink cold water immediately after bleeding, nor to graze in the field; the former may chill the blood, and the latter may cause the orifice to bleed again. If this operation be performed in the summer season, it will be best to fetch them out of the pasture towards evening, bleed, and let them stand in the fold-yard all night, and the next morning take them to their pasture. The utility of bleeding will be found under different heads in this work, and the proper quantity necessary to be taken from the animal at one time, according to the disease and symptoms.

SECTION XLII.

THE COW POX.

It appears from different authors that this disease was never noticed by any one before Doctor Jenner, who certainly is the first man that ever attempted to convince the world in a public manner, of its great utility in protecting the human race from that baneful disease the Small-Pox. Vaccine Innoculation has been introduced into most parts of Europe, the East and West Indies, besides many other parts of the world. As a substitute for the small pox, it appears to have met with the approbation of the public; yet like many other discoveries, it has met with many powerful opponents, and still has many more to contend with.—Some persons conjecture that the grease in horses heels is of the same nature as the cow pox; but this is a mistake, and the contrary may easily be proved. Some horses have the grease for years together, and are never free from it, either winter or summer. The cow-pox is a disease that gradually proceeds to maturation, and afterwards declines or dies away; it is now beginning to be generally known among the keepers of large dairies, and is indicated by the following symptoms

The eyes of the animals appear heavy and dull, and their milky secretions are considerably lessened, frequently to more than one half in a few days. The beast moan and wander about by themselves. "Irregular pustules appear on the nipples of the cow; which at their first appearance are commonly of a palish blue, or rather of a color somewhat approaching to livid, and are surrounded by an erysipelatous inflammation."*

* See Medical and Physical Journal, vol. i, p. 3.

As soon as this disease takes place, a cordial drink may be given, which is very necessary to warm and stimulate the solids, and give fresh motion to the fluids, by which nature will be better able to repel the disease; the drink No. 1 or 2 may be given as there directed, for two or three times. If any feverish symptoms should appear, the body must be kept open by giving one of the following purging drinks as there directed, No. 3, 4, or 42; any of these drinks will be found sufficient to purge the body and check the fever. The teats and udder may be well rubbed with the ointment No. 91, twice a day after milking; or the following lotion may be used, if there be any objection to the use of the ointment.

RECIPE (No. 101.)

Take Crude Sal-ammoniac, in powder, half an ounce;
Wine Vinegar, half a pint;
Camphorated Spirit of Wine, two ounces;
Goulard, one ounce;
Mix, and keep them in a bottle for use.

This lotion is more pleasant to use than ointment, and is very suitable for sore teats in general, though they may proceed from other causes. It should be well rubbed on the parts affected twice a day.

SECTION XLIII.

WOOD-EVIL, MOOR-ILL, CLUE-BOUND, OR FARDEL BOUND, AND PANTAS.

A great variety of curious names is given to many of the diseases of neat cattle, by different authors. It certainly would be a great conveniency if nearly one half of them were expunged and more rational ones admitted.

The *Wood-evil* chiefly proceeds from debility, occasioned by taking cold when exposed to bleak winds in open commons or pastures. This brings on a pain and stiffness in the joints; and if early attended to may be easily removed by giving a few of the drinks No. 1 or 2 as there directed. But if the disease be of some time standing, it will be more proper to treat the animal in the same manner as for the Rheumatism or joint felon.*

Moor-ill is a state of debility said to be occasioned by the want of fresh water; this may easily be remedied by removing the beast to a fresh pasture, where it is more plentiful, and by giving a few of the abovementioned drinks for the wood-evil.

Clue-bound, or *Fardel-bound*.—The animal, when in this state, is disposed to be saped, or costive; the thin part of the excrements force their way through the middle or on one side of the more hardened part. This frequently takes place at the commencement of a fever, and requires speedy relief, otherwise the life of the beast will be in danger. Let the purging drink No. 3 or 4 be given as there directed, as soon as possible, and repeat it until a proper passage is obtained. The beast

* Vide Section XXII.

may be restored in a short time after by giving two or three of the drinks No. 14, as there directed.

Pantas, is another species of disease similar to the former, requiring the same treatment.

SECTION XLIV.

ON THE DISEASES INCIDENT TO YOUNG CALVES, AND THE METHOD OF TREATING THE COW AFTER CALVING.

After the extraction of the calf proper care should be taken of the cow, in providing her a suitable place to lie down in; and also to allow her the privilege of licking her calf, which not only makes her fond of it, but the friction of her tongue puts the young animal in motion, and will enable it to rise much sooner than it otherwise would. About a quart of the first milk (usually called beastings) should be taken from the cow before the calf be allowed to suck; after which it may have free access to the cow.

The milk for the three or four first days being of an opening and purging quality, will evacuate the bowels or intestines of the yellow viscid matter called the meconium; which is confined in the colon during gestation. If therefore this should not be able to perform the necessary evacuation, recourse must be had to medicines; of which the following will be suitable for this purpose.

RECIPE (No. 102.)

Take Castor Oil, one ounce;
Prepared Kali, half a drachm;
Ginger, in powder, one tea-spoon full;
Mix, and give it in half a pint of warm milk.

This drink may be repeated the next day if the bowels are not sufficiently open. It is always advisable to let the calf have free access to the cow as soon as it is able to stand, and on the second day the calf may be tied in a corner of the hovel where the cow is; and if she has more milk than it can take at one time, it will be proper to milk a part from her before the young animal is let loose to her; this should be done three times a day for two or three days.

Afterwards let the calf be taken away, if the cow's udder be free from kernels or hard excrescent substances, which are found in the udder of most young cows after calving; otherwise it should be permitted to suck for a day or two longer.

The jolting of the calf's head against the udder, greatly assists in dispersing these excrescences, and in preventing the downfall, or an inflammation taking place in this part, which might cause much trouble or endanger the life of the cow.

The diet and treatment of cows at the time of parturition, must be regulated according to the season of the year; if in the winter, or early in the spring, care should be taken to house them as soon after as possible, and to give them warm water and mashes of scalded bran, with a little ground corn in them twice or three times a day. If in the summer, they require to be kept under a shade, where they can be protected from the sun in the day, and from the cold in the evening; and

treated with mashes and warm water for two or three days as above.

As the rearing of young calves from the pail is a distinct branch of farming economy, it could not properly be introduced here. The reader who is desirous of information, may see the different methods employed for this purpose, in that valuable work, "The Complete Grazier," 8vo. third edition.

SECTION XLV.

THE METHOD OF TREATING THE NAVEL-STRING AFTER EXTRACTION.

As soon as the calf has been taken from the cow, and has been properly cleaned, either by the animal licking it, or with a clean linen cloth, let the *Umbilical Cord* or *Navel String*, be properly secured with a ligature, in the following manner.

Take a waxed thread of several thicknesses, and pass it several times round it, about two inches from the body, secure it fast, then take a pair of scissars and clip it off a little below the tied part. Care is always necessary in tying the thread, lest it cut the navel-string, and cause an effusion of blood that might prove difficult to stop, and endanger the life of the young animal. When this happens to be the case, no time must be lost, and the wound be dressed as soon as possible with the following styptic mixture.

RECIPE (No. 103.)

Take Compound Tincture of Myrrh, two ounces ;
Wine Vinegar, half a pint ;
Oil of Vitriol, half an ounce ;
Mel Egyptiacum, two ounces ;
Mix them together in a bottle, and keep them for use.

Take a pledget of lint or tow and dip it in the above mixture ; then apply it to the part affected, and support it with a proper bandage round the body. This will in general put a stop to the bleeding in a short time ; or if thought more proper, the following poultice may be applied ; which will be found of equal efficacy in repelling the hemorrhage.

RECIPE (No. 104.)

Take fine Flour, half a pound ;
Blue Vitriol, in powder, half an ounce ;
Allum, in powder, two ounces ;
Mix them into the consistence of a poultice, with the preceding mixture, No. 103.

This cataplasm or poultice, must be spread thick on leather or linen, (the former is the best,) then apply it to the navel, and support it with a proper bandage as before. If the part tumefy and be likely to suppurate, let it be dressed with the following.

RECIPE (No. 105.)

Take Spirit of Turpentine, and Spirit of Sal-ammoniac, made with lime, of each two ounces ;
Linseed Oil, six ounces ;
Oil of Amber, one ounce ;
Mix them together in a bottle, and keep them for use.

All the swelled part must be well rubbed with this mixture twice a day, and the wound dressed with the digestive ointment No. 72, as there directed Under circumstances of this nature, it frequently happens that the young animal is so much reduced by pain and the loss of blood, as to require medicine to brace and strengthen its relaxed frame. The following restorative will be found very serviceable in this case.

RECIPE (No. 106.)

Take Peruvian Bark in powder, and Ginger, fresh powdered, of each two drachms ;
Mix, and give them in half a pint of new milk.

This draught may be repeated once or twice a day, for two or three days, until the calf recovers its strength. By a strict attention to the above rules and the treatment, the life of the animal may be preserved in cases that appear most desperate.

SECTION XLVI.

DIARRHŒA, OR DYSENTERY.

This is a disease to which young calves are very subject, at the age of from two to six weeks, and is chiefly brought on through change of diet. Some farmer's wives are so penuriously disposed that they will scarcely allow that subsistence which nature requires at so early an age, and for want of which great numbers die.

The time of changing the diet of these young animals is the most difficult. Care should therefore be taken to change it very little for the first fortnight, but to allow it for the greatest part new milk; afterwards bring it to porridge by slow degrees, or otherwise a dysentery or scouring may be expected to take place, which will greatly weaken the calf, and if not checked in time, will end in a complete dysentery.

The symptoms are as follows:—great weakness;—loathing of its food;—a continual purging;—every thing it takes turns acid and coagulates on the stomach.—Towards the last stage of this disease the stools become bloody and feted, a large portion of the defensive mucus of the intestines is mixed with them; after which a gangrene or mortification soon takes place, and terminates in the death of the animal. All these disasters may be prevented (if timely attended to) by proper management, and the following medicines.

RECIPE (No. 107.)

Take Rhubarb, in powder, two drachms;
Oil of Castor, one ounce;

Kali, prepared, one tea-spoon full ;
Mix and give it in a pint of warm milk ;

This drink will gently purge and evacuate the stomach and bowels of the indigested crudities with which they are so much loaded in cases of this kind. The day after taking the above purgative drink, let the following powders be given according to the direction.

RECIPE (No. 108.)

Take Chalk, prepared, four ounces ;
Crab's Eyes, prepared, two ounces ;
Bole Armenic, two ounces ;
Bone, burnt in the fire till white, in powder, two ounces ;
Ginger, fresh powdered, two ounces ;
Mix them all well together.

Take one large table-spoon full of these powders, mix in a pint of new milk, and give it to the calf before it is fed every morning and evening, as long as the purging continues. These powders will be found a powerful absorbent, and frequently to check, if not to cure the disease in its last stage.

Calves that are attacked with this disease at the age of from four to six weeks, may have the castor oil increased to two ounces; the powders also may be doubled, and to these powders may be added one tea-spoon full of tincture of opium every time they are given. By increasing the quantity, every dose may be made suitable to the age of the calf. In cases of long standing there is often a continual motion to dung, which

may be properly called a tenesmus. The pain in this case appears to be more limited to the rectum, and may be speedily removed by administering the following clyster.

RECIPE (No 109.)

Take Linseed, two ounces ;
Boil in a pint and a half of Water ;
Strain and add
Treale, two ounces ;
Salt of Tartar, two drachms ;
Chalk, prepared. one ounce ;
Tincture of Opium, half an ounce ;
Olive Oil, one ounce ;
Mix all together while warm, and inject it up the rectum, and apply a small wisp to the anus, that it may be retained for five or ten minutes.

This clyster will be found to expel the acrid and slimy humors adhering to the coats of the rectum ; if found necessary, it may be repeated once a day.

SECTION XLVII.

COSTIVENESS IN YOUNG CALVES.

The costive habit of some calves may take place at the age of three or four days; but in general if does not appear until the time when the young animal is put up to dry meat; which may be reckoned at or about the age of eight or ten weeks. In every state of costiveness the animal will be in danger of its life if not timely removed.

Horned cattle, whether young or old, when laboring under any internal disease, are very liable to become costive or saped. Cattle laboring under this complaint are liable to inflammatory fevers of different kinds.—And if purgative medicines are not given in time there is often little hopes of recovery. Neat cattle of all other, verge most rapidly to a state of dissolution when suffering under any inflammatory disease. (See Section XX, on purging medicines)

The greatest art of curing diseases is to be well acquainted with their nature, and the constitution of the animal, together with a proper knowledge of the quality and quantity of every medicine necessary to be given in each disease, in order to obtain the desired effect. Without this knowledge there will be but little probability of success. If the purgative dose be too small, it will be apt to increase the disease; and if too large, it will be liable to reduce the young animal to a very weak state. A proper quantity therefore, sufficient to produce the desired effect, is the point most necessary to be sought for; and of this point the author ventures to hope that long experience has given him a confident knowledge. The following different formulas will serve

to elucidate the subject, so as to enable the practitioner to prescribe for calves of every age. The following drink is suitable for one six weeks old.

RECIPE (No. 110.)

Take Glauber Salts, three ounces ;
Ginger, in powder, half an ounce ;
Anniseeds, fresh powdered, half an ounce ;
Treacle, two table-spoons full ;
Put the whole in a pitcher, and pour a pint of boiling water upon the ingredients. Cover them down, and when new-milk warm give the drink.

The following may be given to one about eight weeks old.

RECIPE (No. 111.)

Take Glauber Salts, four ounces ;
Rhubarb, in powder, two drachms ;
Ginger, Carraway Seeds, and Anniseeds, fresh powdered, of each half an ounce ;
Treacle, three table-spoons full ;
Put the whole in a pitcher, and pour a pint of boiling water upon the ingredients, cover them down, and give when new-milk warm.

Or if thought more proper the following may be given, especially in inflammatory cases.

RECIPE (No. 112.)

Take Castor Oil, four ounces
Rhubarb, in powder, two drachms;
Prepared Kali, one drachm;
Ginger, and Anniseeds, fresh powdered, of each half an ounce;
Treacle, two table-spoons full;
To be given in a pint of warm gruel.

Any of these drinks may be repeated once a day until they produce the desired effect. By increasing the glauber salts, or the castor oil, the drinks may be accommodated to every age. The great utility of purging medicines consists in carrying off those crudities which so frequently engender in the stomach and intestines of young calves, and produce many fatal diseases, as is obvious to those who have the management of young cattle. It will be necessary here to introduce a cordial drink, which is always proper to be given after purging; as it not only nourishes and heals the parts, but stimulates them to fresh action, and produces in them a healthful tendency. It will likewise be found of infinite use in removing flatulency from the stomach and intestines, and in promoting the peristaltic motion, which is the best method of preserving health in these young animals.

RECIPE (No. 113.)

Take Anniseeds, and Carraway Seeds, fresh powdered, of each one ounce;
Coriander Seeds, Ginger, Grains of Paradise, fresh powdered, of each half an ounce;

Treacle, two table-spoons full ;
A lump of Butter, of the size of a walnut ;
Put the ingredients into a pitcher, and pour a pint of boiling ale upon them. Cover the whole down till new-milk warm, and then give it.

This will be found an excellent drink to remove indisposition, strengthen the stomach and promote an appetite.

SECTION XLVIII.

THE HOOSE IN CALVES.

This disease most commonly attacks young calves during the first year, and generally seizes them while at grass in the summer. In some dry summers it has carried off large numbers, to the great loss of owners. Upon examination after death, the author has frequently caused their gullets to be laid open and inspected, in which he has found a bunch of worms, netted or matted together. These, by their continual tickling motion, cause the young animal to be almost in a continual state of hoosing or coughing; by which the powers of digestion are so much impaired as to render the chewing of the cud impracticable. And if proper medicines are not applied, they languish and pine away like a consumptive patient. All these evils may be prevented with care and proper management. The following drink will be found effectual in destroying these kind of vermin.

RECIPE (No. 114.)

Take Wormwood and Savin, of each two ounces ;
Indian Pink, half an ounce ;
Cut or bruize them small and put them in a pitcher ;
Then pour a quart of boiling water upon the ingredients ; cover them down and let them stand in a warm place till next morning ; strain the liquor through a cloth, and add to it
Ginger, in powder, half an ounce ;
Anniseeds, fresh powdered, two ounces ;
Linseed Oil, two table-spoons full ;
Mix and give it new-milk warm.

The calf must fast two hours before the drink is given, and two hours after, when it may be turned into its pasture again. It will be necessary to repeat the drink every other or every third day for some time. The above drink is calculated for one of the age of three months, and from that to six or eight months. If the beast be older, a larger proportion of the ingredients must be added, if younger less will suffice. Or the following may be given, if thought more preferable.

RECIPE (No. 115.)

Take Wormwood, a small handfull ;
Indian Pink, half an ounce ;
Cut or bruise them small, and infuse them in a quart of boiling water all night ;
Strain, and add to the liquor
Gentian, and Worm-seed, in powder, of each half an ounce ;

Carraway Seeds, and Anniseeds, fresh powdered, of each one ounce ;
Fresh Butter, one ounce ;
Mix and give new-milk warm.

The young animals must fast the same time before and after the present drink as the former. This drink will be suitable for those of the age of six months, and from that to twelve months. It may be repeated every third day for three or four times ; then leave it off for a week, and if the calf still continue unwell, repeat it as before.

The aforesaid drinks will increase the appetite, promote digestion, and destroy vermin from the larynx.—Worms in horned cattle we believe are not very common ; nor do we recollect any instance of the kind except in the above cases. In many instances where calves have been so bad with this complaint that they baffled the power of other medicines, the disease has instantly given way on their taking one table-spoon full of spirits of turpentine, without mixing it in any thing. It may be repeated every third day for three times.

SECTION XLIX.

Observations on the proper method of dividing the different Drinks mentioned in this Treatise, suitable for Horned Cattle, from the age of one year and upwards.

THE reader is requested to bear in mind that in the preceding pages the drinks are chiefly calculated for cattle that have arrived to a state of maturity. It will therefore be necessary for those persons who have the management of horned cattle, to have a proper knowledge of the method commonly used in dividing each drink suitable for their different ages. Those of a purgative nature first claim our attention, as they are the most necessary for every one to make himself thoroughly acquainted with.

If too large a dose be given, the animal's life will be in danger. On the other hand, if too small a quantity be administered, the symptoms will be increased; thus it will be obvious that either extreme may lead to a disappointment of cure, if not the death of the animal. It is indispensably necessary that all those persons who are in the habit of prescribing medicines for horned cattle should make themselves well acquainted with the nature and power of the animal frame, the symptoms of all diseases, and likewise quality and operative powers of the medicines usually prescribed. Without this knowledge our proficiency in the healing art will be very deficient.

The following method, if strictly attended to, will lead to a proper division of those drinks, whose operative powers are the most considerable.

I. For a heifer, or a steer, of one year old, and from that to a year and a half; one half of any of the fol-

lowing purging drinks will be sufficient: Nos. 3, 4, 10, 11, 20, 27, 32, 37, 42, 46.

II. For such as are from one year and a half to two years and an half, three parts out of four may be given of any of the aforesaid drinks, afterwards a whole drink may be given. By this method every drink may be properly divided, suitable for every age, size and constitution. The above rule will also serve to regulate the other drinks.

ON THE DISEASES OF SHEEP.

In the following sections on the diseases to which Sheep are most liable, the author has pursued the same plan of discussion as in the preceding part of this work, on the disorders prevalent among Horned Cattle. His remarks and directions for treatment are founded wholly on the experience of upwards of forty years; and he has obtained many valuable hints, especially in the course of the last twenty eight years, during which he has resided at Retford. His practice has indeed been chiefly confined to the most fatal disorders that usually attack and rapidly carry off those useful animals; and as their value is now daily increasing, the author has endeavored to state his system of treatment in the clearest manner possible.

Many of those diseases which prove most fatal, commit the greatest ravages among sheep that are in the best condition, either in the spring, or the latter end of the year, if the season be wet, as also when they are at turnips.

The best method of obtaining information (when any of these animals fail,) is to cause the shepherd to open and properly examine them; by which means, if he be a man of judgment, he will soon be enabled to put a stop to the fatality of the disease.

SECTION L.

THE LAMBING SEASON.

THE lambing season depends wholly on the time when the tup is put to the ewes; which in general is so calculated that they should bring forth their young towards the latter end of February or the beginning of March. This is an inclement season both for the ewe and the lamb, especially if they have been badly kept for some time before yeaning. The consequence naturally to be expected on this occasion, must be a severe loss amongst both the ewes and their offspring.

If the dam has not sufficient support for herself, the lamb in course will be weakly at the time it is brought forth. It is therefore indispensably necessary that all sheep breeders should pay every attention to these animals, that nature and the season of the year may require. For a month or six weeks at least before the time of yeaning, they should be supplied with plenty of food, in order that nature may provide for her offspring at the appointed time. If strict attention be paid to these observations, the health and strength of these animals will be preserved, by which they will be enabled to go through the difficulty of parturition.

Further, every farmer or grazier in the practice of breeding sheep, should be properly provided with a fold-yard suitable for the purpose. It may consist of a small plot of ground well protected from the north east and westerly winds, with a suitable shade and fire-place in it, and other conveniences for the purpose. Thus the shepherd will be the better able to attend them at all hours of the night, to give his assistance if required, and to take proper care of them. By attending to these observations the lives of many will be saved. It frequently

happens during the lambing season, that ewes are severely handled through the largeness of the lamb, or its being in a wrong position, so as to bruise or tear the different parts of the uterus. It will be necessary to have in readiness at these times, the following mixed oils.

RECIPE (No. 116.)

Take Venice Turpentine, and Barbadoes Tar, of each four ounces ;
Spirits of Turpentine, half a pint ;
Linseed Oil, one pint ;
Mix these all well together, then add the following:
Mel Egyptiacum, two ounces ,
Oil of Vitriol, and Aqua Fortis, of each half an ounce ;
Mix them together, and add Tincture of Myrrh, half a pint ;
Mix and shake them all well together in a bottle for use.

Whenever these oils are used, let the bottle be well shaken, and the quantity of one or two tablespoons full be conveyed into the matrix, or womb, either by the hand or with a spoon. They warm and stimulate the parts affected, and will most effectually prevent or cure the gangrene or mortification in these parts, as well as in other fresh wounds. The following drink will be found of infinite service, if given to those ewes which are injured by a difficult parturition.

RECIPE (No. 117.)

Take Peruvian Bark, and Ginger, in powder, of each one drachm ;
Mix them in half a pint of warm gruel, and add
Treacle, two table-spoons full ;
Brandy, one table-spoon full ;
Mix, and give it new-milk warm.

It is frequently necessary to repeat this drink once or twice a day, where the animals have received much injury, or where they have been reduced by indifferent, bad, or scanty keep for a long time before the lambing season commences.

In every case where nature appears to be in a languid and debilited state, nothing can equal the effect of these powders in restoring them. The gruel that is necessary to be given to ewes at the time of lambing, should be made as follows.

Take Linseed, fresh powdered, one pound ;
Oatmeal, two pounds ;
Mix them together, and when gruel is wanted, take a sufficient quantity of the powders and water ;
Boil them together into gruel, in the same manner as if made of Oatmeal alone ;
A table-spoon full or two of Gin or Brandy may be added, and a similar quantity of Sugar.

This will give abundance of support to the animals, as well as nourish and heal their insides, through the richness of the seed being combined with the oat-meal.

From half a pint to a pint of this gruel may be given at one time, and repeated twice a day if necessary. If the ewe be deficient in her milk (which very frequently happens at the time of lambing for want of better support,) let the following drink be given, which will be found greatly to assist those secretions.

RECIPE (No. 118.)

Take Anniseeds, Sweet Fennel Seeds, Carraway Seeds, and Grains of Paradise, of each one dracham; (let them all be fresh powdered;)
Mix, and give in half a pint of warm gruel.

Such persons as may find it necessary to give their sheep the above drink, would find it more convenient to have three or four ounces of each powdered and mixed together; and if they be not used in a few days, to put them in a pot and tie them close down with a bladder. Half an ounce of these powders may be mixed and given as above, at any time. By this method the whole virtue of the seeds will be preserved. This drink acts as a cordial, and powerfully promotes the milky secretions, at the same time it warms and stimulates the stomach and intestines.

SECTION LI.

ON THE DISEASES OF YOUNG LAMBS.

YOUNG lambs are liable to a variety of different diseases, either from insufficient keep, or from a redundancy of milk. If they proceed from the former, support must be given them, either by allowing them to suck other ewes or by giving them cow's milk.—When the ewe has too much milk it is apt to coagulate and form into a substance in the stomach, by which many of the best lambs are frequently carried off. At other times the acid produced from the coagulated milk in the stomach brings on a diarrhœa, or a continual purging; which if not put a stop to in a short time will carry off many of the best lambs. These are common among lambs at the spring of the year. The following drink will be found useful in dissolving the coagulated matter in the stomach, correcting the acid and in carrying off the disease by stool.

RECIPE (No. 119.)

Take Kali, prepared, one tea-spoon full;
Castor Oil, one table spoon full;
Ginger, in powder, half a table spoon full;
Coarse Sugar, one table-spoon full;
Mix, and give in half a pint of warm gruel.

This drink may be repeated once a day for two or three times, until a proper passage is obtained. The

quantity of castor oil may be increased or diminished, according to the size and strength of the lamb. A strong lamb six weeks or two months old, will require one table-spoon full and a half; but if only two or three days old, half a table-spoon full may suffice. If the disease be permitted to continue for some time, and no assistance be attempted to give relief, the diarrhœa becomes more stationary ; and the stools are attended with a copious dejection of the mucus of the intestines, together with a griping pain, while the young animal daily pines away.

After the bowels have been properly evacuated by administering the purgative drink, the following powders will be found to have a powerful effect in correcting the acid in the first passages and likewise in putting a stop to the over purging.

RECIPE (No. 120.)

Take Chalk, prepared, four ounces ;
Crab's Eyes, and Oyster Shells, prepared, of each two ounces ;
Annisceds, Carraway Seeds, and Ginger, fresh powdered, of each one ounce ;
Rhubarb, in powder, half an ounce ;
Mix them well together in a mortar.

One small table-spoon full of these powders must be mixed in a little sweetened gruel and given to each lamb once a day. If the purging does not abate in the course of two or three days, ten drops of tincture of opium may be added to each dose of powders. By adhering to the above method of treatment, a cure may soon be expected.

SECTION LII.

RED WATER.

This disease is of the inflammatory kind, and prevails most at the latter end of the year, or during the winter, among sheep feeding on turnips or succulent grasses.

In the neighborhood of Retford (England) this disease has been common for several years past; it seldom misses a season, but it makes its appearance amongst some of the numerous flocks that feed on vegetables of these kinds, and for the most part attacks those sheep first which are in the best condition; and if no relief can be obtained they generally die in the space of twenty four hours or less. In such sheep as have been opened, the disorder has on examination been found to proceed from an inflammation, either in the stomach, intestines, kidneys or the neck of the bladder. Sometimes the intestines become loaded with sand or gravel, while feeding on turnips; by which the inflammation is considerably increased. Whenever this disease makes its appearance in flocks of sheep that are feeding on turnips or succulent grasses, no time must be lost in putting a stop to so destructive a disease. The loss sustained by the grazier in consequence, is often very considerable.

The following medicine the author has had an opportunity of trying on a large scale, sometimes on five or six hundred sheep, belonging to one man, in the course of the day.

RECIPE (No. 121.)

Take Epsom Salts, six ounces ;
Nitre, in powder, four ounces ;
Boiling Water, three pints. Pour the water hot upon the Salts ;
When new-milk warm, add
Spirit of Turpentine, four ounces ;
Bole Armenic, in powder, half an ounce ;
Mix, and shake them well together ;
The dose is, from three to four table-spoons full.

When this medicine is intended to be given to a number of sheep, they must be taken from the turnips, or whatever they have been feeding on, and put into a pen or fold-yard, for two hours before it is given. Then a small horn should be provided that will just hold the quantity proper for each sheep. Let the bottle be well shaken each time it is poured into the horn.

This method of giving drinks to sheep will be found very advantageous when many require it at one time. They must be kept from food two hours after the medicine is given either in a fold-yard or a pen ; after which they may be put in their pasture as usual.—When this disease is so severe that several die every day, it will be necessary to repeat the medicine every third day, for three times or more, if thought proper. This will be found a powerful medicine in all inflammatory diseases, and in removing all those obstructions that so frequently take place in the kidneys, uterus, or other parts of the body, while feeding on turnips, or in a luxuriant pasture.

SECTION LIII.

THE ROT.

This disorder has been more fatal to sheep than any other; and having at different times carried off great numbers, it has occupied the attention of the learned, who have favored the public with a variety of opinions; the symptoms however of this fatal disease cannot be more accurately stated than in the following description of Dr. Harrison.

"When in warm, sultry and rainy weather, sheep that are grazing on low and moist lands feed rapidly, and some of them die suddenly, there is reason to fear that they have contracted the rot. This suspicion will be further increased, if a few weeks afterwards the sheep begin to shrink and become flaccid in their loins. By pressure about the hips at this time, a crackling is sometimes perceptible. Now or soon afterwards, the countenance looks pale, and upon parting the fleece the skin is found to have exchanged its vermilion tint for a pale red, and the wool is easily separated from the pelt.

"As the disorder advances, the skin becomes dappled with yellow or black spots. About this time the eyes lose their lustre and become white and pearly, from the red vessels of the tunica adnata, and eye-lids being contracted or entirely obliterated. To this succeeds debility and emaciation, which increase continually till the sheep die; or else ascites, and perhaps general dropsy supervenes before the fatal termination.

"These symptoms are rendered more severe by an obstinate purging, which comes on at an uncertain period of the disorder. In the progress of the complaint sheep become what the graziers call chockered, that is, affected with a swelling under the chin; which proceeds from a fluid contained in the cellular membrane under the throat.

"In five or six days after contracting the rot, the thin edge of the small lobe of the liver becomes of a transparent white, or bluish color, and this spreads along the upper and lower sides, according to the severity of the complaint Sometimes it does not extend more than an inch from the margin. In severe cases the whole peritoneum investing the liver is diseased; and then it commonly assumes an opaque color, interspersed with dark red lines or patches.

"The upper part of the liver is sometimes speckled like the body of a toad, to which it is said to bear a striking resemblance; round the ductus communis choledochus and hepatic vessels, jelly-like matter is deposited, which varies according to the severity of the attack, from a table-spoon full, or less, to five or six times that quantity. Upon boiling, the liver loses its firmness and separates into small pieces in the water, or remains soft and flaccid. Several graziers and butchers with whom I have conversed at different times, having observed that sheep are much disposed to feed during the first three or four weeks after being tainted, omit no opportunity of producing it, to increase their profits.

"When the first stage is over, flukes begin to appear in the pori biliarii, the ductus communis choledochus, and in the gall-bladder. At first, the quantity of these creatures is small; but as the disease advances they increase; and before death are often very numerous.

"In the last part of the complaint they are sometimes to be found in the stomach, as well as in the intestines and liver. This, like the visceral disorders of the human body, may terminate in resolution—effusion—suppuration, or schirrus.

"*First*, the complaint is said to terminate in resolution, when the inflammatory action goes off without destroying the state and texture of the parts. However, I am strongly inclined to believe that every considerable inflammation in the human body, and in other animals, although it ends in resolution, leaves behind it some remains which may be discovered by an experienced anatomist.

" When the vessels are thrown into inflammatory action for a few days only, effusion commonly takes place, and the coats become thicker and assume a buffy color. These changes in the sanguinary system often continue through life, and lay the foundation of many chronic and incurable diseases. Sheep that recover from the rot exhibit very different appearances after death, according to the severity of the attack; but the taint is seldom or never entirely removed. I was once desired to look at the liver of an old ewe that died fat, and contained fourteen pounds of suet in her body. The back part of the small lobe was dappled with whitish spots; the coats of the ductus communis and pori biliarii were considerably thickened and more solid than usual. In color they resembled the human *aorta* in old people, and were full of flukes; in other respects the liver appeared to be sound and natural. The butcher asserted that this was occasioned by a slight taint of long standing, which had not been considerable enough to disorder the economy, or impair the health of the animal sufficiently to prevent its feeding.

" *Secondly*, when sheep die suddenly in the first stage of the disorder, an effusion of serum, or of wheyish colored fluid may be commonly discovered in the cavity of the abdomen, and then the peritoneum surrounding the liver is generally covered with a membrane or coat of coagulable lymph. This form of the rot has been frequently confounded with the *Resp*, or *Red Water*, though it differs from the latter disorder in the color of the effused liquid, in being much less disposed to putrefaction, and in several other particulars —

" *Thirdly*, Abscesses in the liver exhibit another termination of the malady. They are seldom considerable enough to kill immediately; but in consequence of the absorption of the purulent matter from them, the sheep frequently waste away and die hectical or dropsical. When the collections are small, sheep will recover sufficiently to bear lambs for three or four seasons, and afterwards become tolerable mutton.

"*Fourthly*, The most common termination is in schirri, or what the shepherds call knots in the liver; I have seen the whole substance of this viscus so full of small roundish lumps, or schirrous bodies, that it was difficult to find any sound part in it. The first attack is unfortunately so very insidious, that the disorder is scarcely observable before the animal begins to waste and lose flesh. In this advanced state it is said to labor under the rot, or *pourriture*, from overlooking the commencement of the disorder."

About ten or twelve years ago, the author of these sheets published a medicine for the Rot in Sheep, accompanied with printed directions;-and as this disease prevailed very much on low grounds, particularly by the Trent side, and in some parts of Lincolnshire (England) he had sufficient opportunity of giving the medicine a fair trial; and had great satisfaction in proving its efficacy in curing this complaint. He undertook many even in the last stage; and frequently succeeded in curing nine out of ten. Farmers whose lands lie in a low situation, and are subject to this disease, will find the following recipe of infinite value.

RECIPE (No. 122.)

Take Nitre, in powder, six ounces;
Ginger, fresh powdered, four ounces;
Colcothar of Vitriol, in fine powder, two ounces;
Common Salt, three pounds and a half;
Boiling Water, three gallons;
Pour the water hot upon the ingredients;
Stir them, and when new-milk warm, add to every quart of the mixture three ounces of Spirit of Turpentine, and bottle it for use.

If this medicine be put in bottles holding from one to two quarts of the mixture, it will be much the better, as the bottles will be more convenient for shaking at the time of giving, which will be found necessary in order to keep the turpentine in a more divided state.

The following directions must be strictly regarded: Keep the infected sheep from food all night; on the following morning give to each sheep two ounces, or four table-spoons full of the above mixture; (remember to shake the bottle well at the moment of pouring it out.) To those which are weak and much reduced by the disease, one half, or three parts out of four may be sufficient for a dose. Keep them from food three hours after giving the medicine, and then turn them into a dry pasture.

It will be necessary to repeat the medicine every fourth day for three times, observing the above rules. But where only half the quantity has been administered, it will be proper to repeat it every second or third day for six times. Every shepherd should be provided with a small horn, containing just the proper quantity; this will save considerable time and trouble, when it is necessary to give the above drink to a number at the same time.

SECTION LIV.

THE SCAB.

The Scab is a disease that is very common in this part of the kingdom (Nottinghamshire, England,) though not so prevalent as in many parts of Lincolnshire.—This disorder is contagious, for if one sheep be infected with it, it will quickly communicate it to the rest of the flock, and can seldom be entirely eradicated without the whole flock undergoing a general salving.

Too much caution cannot be used by the grazier in first introducing sheep, which are purchased from other districts, among his own flocks, lest any of them should be infected with this disease. The scab requires but little description, being so well known to most persons who are accustomed to the care and management of sheep. It is first discovered by the animals rubbing themselves against every post, gate, bank, or any other convenient place suitable for the purpose, and they are frequently seen to pull off the wool with their mouths.

This disease appears to be of the cutaneous kind, and only affects the skin with a scabby eruption; but if permitted to remain without attempting to cure, it will enter the system; and unless great care be taken, the sheep will sink under its pressure.

Formerly this disease was cured with a strong decoction or infusion of tobacco, in a certain quantity of water, and at the time of using, a small quantity of spirit of turpentine is added. Others have dissolved an ounce of sublimate and two ounces of crude sal-ammoniac in one gallon of the above infusion. This medicine will cure the scab in sheep; but being of a dry and harsh nature, is it is detrimental to the fleece.—The scab often remains on the afflicted part for a considerable time after dressing with this medicine in a

corroded state; which entirely prevents the wool from growing, so as to be of no use for that season. The ointment is a proof of its great superiority over all washes, not only in curing the disease, but in causing the scab to shell off, and the wool to grow; and likewise in promoting their health; it is prepared in the following manner.

RECIPE (No. 123.)

Take Mercuay or Quicksilver, one pound;
Venice Turpentine, half a pound;
Spirit of Turpentine, two ounces;
Work them well together in a marble mortar until the Mercury is thoroughly incorporated, which may be complete in the course of five or six hours;
Then take four pounds and a half of Hog's Lard; melt it over a slow fire, and when new-milk warm, add to it the Quicksilver, and keep it constantly stirring until it grows stiff.

The labor necessary in making this ointment may appear to some persons very considerable; but the quality depends wholly on the perfect union of the quicksilver with the other ingredients. If requisite, the person may make four times the quantity in nearly the same time by working it all together in a large marble mortar, or in an iron pan (of a sufficient capacity to hold the whole) with a wooden pestle five or six inches broad, and made suitable to the bottom of the mortar, or pan.

Shepherds in many parts of this kingdom have but little knowledge of the proper method of using this ointment, for want of which the life of the animal is often

in great danger. It will therefore be necessary for every shepherd and others having the care and management of sheep, to know the proper quantity that may be used with safety.

One pound of the ointment is sufficient to dress seven sheep of a moderate size, for the scab; and if slightly infected it will suffice from that number to ten. Many farmers and graziers are in the practice of dressing all their sheep and lambs every year, whether infected with the scab or not. They allege that it destroys filth, promotes health, and causes them to thrive much faster. The quantity generally used for such sheep as are not infected with the scab, (but merely with the view of keeping them free from that disease and from filth,) is generally one pound of the ointment to ten sheep.

The ointment should be neither too stiff nor too thin; if the former, it cannot be properly rubbed on the part; and if the latter, it is apt to run off and be of no use. A moderate consistency therefore, so as to spread freely, is preferable, which may be regulated in the following manner. If the ointment be made in the summer, when the weather is warm, it will be proper to leave out one pound of lard, and add one pound of black resin; dissolve it in the lard, and add it to the mercury; this will stiffen and make it of a better consistence.

The method of using this ointment is as follows: Divide the wool on the back from the head to the tail, so as to expose the skin; then take a small quantity of the ointment intended to be rubbed on the sheep, and rub it well in upon the skin, from head to tail. Next divide the wool on each side, and rub the remaining part of the ointment well in. This is the general method made use of either in dressing of sheep for the scab or filth. But different shepherds adopt various ways, some thinking it necessary to divide or furrow the wool down each shoulder, and likewise on the thighs, or on any part that may be infected with the scab.

The most proper time for dressing sheep with ointment is about Michaelmas, or any time in the month of

October, choosing dry weather for the purpose. But this is not always the case; the farmer often neglects to dress them at the latter end of the year, and in the spring he frequently finds his sheep infected with the scab. Now they should not be dressed for this disorder too early in the spring, but should be allowed to gather a little strength; and if the weather be dry and fine, it should not be suffered to pass.

SECTION LV.

SHEEP-LICE AND TICKS.

Sheep of every description are liable to these kinds of filth; but more particularly such as are in an unthriving state. They in every respect appear to be constant attendants on sheep that are struck with poverty. A description of them is almost unnecessary, as shepherds and others accustomed to sheep, must have a knowledge of this kind of vermin.

The louse is of a brownish color and a flat make, having three legs on each side of its head. Ticks are nearly of the same make and color, excepting that they are considerably larger. They are of great detriment to the sheep, prevent them from thriving, and cause them to scratch or tear off their wool by rubbing themselves against fences, and sometimes they will tear it off with their mouths, to the great injury of the pelt and fleece.

In order to destroy these noxious vermin, a number of different applications have been employed; but in most parts they have been superceded by the use of the mercurial ointment used for the scab. This on trial is

not only found more effectual in killing filth, but it enters the system, purifies the blood. and causes the animal to put on a more healthful appearance; it likewise promotes the growth of the wool. These things are considerably in the farmer's favor. There are however in different parts of England; persons who still practice the old method of dipping their lambs at the latter end of the year in a solution of arsenic made after the following manner.

RECIPE (No. 124.)

Take White Arsenic, in powder, two pounds ;
Pearl Ashes, half a pound ;
Soft Soap, four pounds ;
Put them in a large tub, and pour from fifty to sixty gallons of boiling water upon the ingredients ;
This may be done over night, and it will be fit to use the next day, when cold.

The lambs or sheep may be dipped or immersed in the solution, taking care the head be sufficiently kept above the water; the sheep must then be put into another tub, and the liquor pressed from the wool with the hands, and returned into the former tub for the remainder. By this method a considerable number may be done in a short time. But one pound of the ointment No. 123 will be sufficient to dress ten lambs ; and if properly rubbed on will destroy all the filth that may be found upon them. The ointment possesses a great superiority over all washes; the former promotes the health of the animal as well as the growth of the wool ; while the latter (through its dry harsh quality) produces the contrary effect.

SECTION LVI.

INFLAMMATION IN THE UDDER OF EWES.

This is a common complaint among ewes at the time of yeaning or lambing. Those which have been well kept for some time before they bring forth, are the most liable to this complaint, as it is apt to cause a flush of milk at that time; and from the glutinous state of the first milk, and also from being long retained in the udder, it blocks up every passage, and soon brings on an inflammation in that part, unless proper care be taken to prevent it.

All ewes at the time of yeaning ought to have their udders well examined by the shepherd; if their milk pass freely from them on pressure of the finger and thumb, there is but little danger of an inflammation in those parts. On the contrary, if the udder be tumefied and there be found no passage for the milk in its regular channel through the teats, these parts being completely glued up with the glutinous quality of the first milk, it is frequently found necessary to introduce a small knitting-needle up the regular passage into the udder; but this requires proper care and attention lest a new passage be forced; after which the milk may be discharged with ease. Then let all the swelled part be well rubbed with the following mixture.

RECIPE (No. 125.)

Take Olive Oil, four ounces;
Spirit of Turpentine, two ounces;
Soft Soap, one ounce;
Camphorated Spirit of Wine, and Spirit of Hartshorn, of each two ounces;
Mix them in a marble mortar with the Soap, by a little at a time; put them in a bottle for use.

After the milk has been drawn from the udder, or at least all that can be taken away at the present time, rub in the above oils on the part affected, and let this be done twice a day. They will be found of excellent use in all purposes of this kind, where obstructions are formed in the lacteal vessels. But if the tumor should increase, and proceed to a state of suppuration, it will then be necessary to open the part with a lancet, or a sharp pointed knife, and then to dress it with the digestive ointment No. 72, as there directed for wounds. Or the gangrene oils No. 135 may be rubbed on twice a day, if thought more proper.

SECTION LVII.

THE FOOT-HALT AND FOOT-ROT.

These diseases in the feet of sheep appear to me always to proceed from one and the same cause; yet if any person wishes to make a distinction, it may easily be done by considering the first stage of the disease as the *Foot-halt*, and the last as the *Foot-rot*. A minute description of this disease would be of little service, as all persons accustomed to the management of sheep cannot be otherwise than acquainted with it. It is first discovered by the animal walking lame; and if no attempt be made to cure it, must in time fall a victim to the disease.

The cure will be easily effected if the following rules be observed.

Let the sheep infected with this disease in their feet, be fetched from their pasture and put into a dry fold-yard; after they have stood one hour, take a brush (such

as is commonly used for cleaning teeth) and brush all the dirt from between the claws; after which take a wooden skewer and dip it in butter of antimony, oil of vitriol, aqua fortis or spirit of salts, (any one of these will be sufficient;) and anoint the diseased part all over, after which let them stand dry for one hour.

If they are properly managed one dressing is generally found sufficient to perform a cure. If either of the above articles is preferable to another, it is the butter of antimony, which seems to have a more powerful effect in some cases than the others. A second dressing is seldom required, except in those cases where there is some appearance of proud flesh, when it must be repeated every third or fourth day for a few times.

If the disease be not checked by these means, but in every respect appears to grow worse, and large excrescences, or superfluous flesh grow out betwixt the claws, the best and most expeditious way in this case will be to cut it out with a sharp knife, taking care to cut off only the superfluous parts. The operator should previously be provided with the following articles, viz. pledgets of tow, old linen, and a long piece of tape; he may then proceed to dress the wound, or place, whence the proud flesh was taken, with the following powders.

RECIPE (No. 126)

Take Blue Vitriol, White Vitriol, and Allum, all in fine powder, of each one ounce;
Bol Armenic, in powder, half an ounce;
Mix them together for use.

The wound must be covered all over with these powders quite thick; secure them properly on with tow, old linen and the tape. This will stop the bleeding,

and prevent the proud flesh from rising. The dressing should be repeated every other day for three or four times, which is generally sufficient to perform a cure. If not it will be sufficient if dressed twice a week. Or the following may be used, if thought more proper.

RECIPE (No. 127.)

Take Blue Vitriol, White Vitriol, Sugar of Lead, and Bole Armenic, all in powder, of each one ounce; Honey, sufficient to make them into a paste.

In all slight cases where there is but little appearance of superfluous flesh, the part may be touched with a a skewer dipped in any of the above mentioned caustic spirits, and afterwards dressed with this paste. Spread it thick upon tow, and apply it to the wound; then cover it over with linen, and fasten it on with a bandage. This may be repeated every other day, or once or twice a week, till the foot be well. Or if the powders or the paste be well rubbed on the part affected every other day for three or four times, it will in general be found sufficient to effect a cure. Care must be taken that they stand dry for one hour after each dressing. By strict attention to the preceding method of applying the different medicines on this head, a speedy cure may be performed in the worst of cases, in a very short time.

SECTION LVIII.

THE SCOUR, OR THE DIARRHŒA.

This disease is frequent amongst sheep, and generally proceeds from bad and scanty keep during the winter season; it makes its appearance early in the spring, as soon as the young grasses begin to put forth their succulent qualities. The sheep are not able to stand against so luxurious a change, and thus many fall a sacrifice to the complaint. Whenever this proves to be the case, they should frequently be removed to an inferior pasture, and allowed a little hay once a day, for a short time. This method of treatment is usually sufficient to check or prevent the scour in sheep. In general this disease seldom lasts longer than a few days; but if the symptoms should still continue to increase, and the animal be in danger of its life, the following powders may be given, which will prove effectual in most cases, though ever so bad.

RECIPE (No. 128.)

Take Peruvian Bark, Ginger Root, and prepared Chalk, of each one drachm in powder;
Mix for one dose.

These powders may be given in a little warm gruel once or twice a day, to such sheep as appear in the greatest danger, with a small table-spoon full of gin or brandy added to it. In some cases where the disease is uncommonly severe, a tea-spoon full of tincture of opium may be added to each dose.

SECTION LIX.

TO PREVENT THE FLY.

SHEEP during the summer, and especially in hot sultry weather, are constantly teazed or plagued with *flies*, particularly those kept in lanes or in woody districts.—They give the animal so much trouble at times as to cause them to run into hedges and the bottoms of dykes or ditches, to the very great detriment of their pelt and fleeces. They likewise prevent them from feeding at a time when they ought to make the greatest progress.

Numerous remedies have been offered to the public, in order to prevent the fly from striking the sheep in hot weather, few of which however have effectually and entirely answered the purpose. The following recipe was communicated to the author by a very respectable gentleman grazier in the neighborhood of Retford (England;) he has no doubt of its answering the purpose as far as can be expected from a composition of this kind.

RECIPE (No. 129.)

Take White Lead, Flour of Sulphur, and White Arsenic, of each one pound, in fine powder;
Mix them all well together in a marble mortar for use.

The above quantity of powders will be found sufficient to dress or dust on sixty sheep; or if it be weigh-

ed and folded up in small paper packets of three quarters of an ounce each, a single packet will be sufficient to dress one sheep. By this method the shepherd will not be liable to make a mistake in dusting more on one than on another. It will be necessary to observe the following directions for using these powders.

First, Let one man take hold of the sheep by the head, and another with a packet of the above powders put in a pepper-box, held in his right hand, and with a stick in his left. Then draw the stick gently from the head to the tail, and with the other hand dust on the powders close after the stick. The utility of the stick will be seen from its pressing down the wool while the powders are dusted on, and as the wool rises, it shakes and spreads the powders. Next take a small watering pan, or any other article that may be convenient, and sprinkle a small quantity of water from head to tail, and draw the stick backwards and forwards two or three times, by which the powders will be made to adhere to the wool. Or the following powders may be used instead of the above, and we have no doubt but they will be found of equal efficacy in protecting the animal from the fly. And as arsenic is excluded from this preparation, it may be used in any quantity with safety.

RECIPE (No. 130.)

Take White Lead, Flour of Sulphur, and White Hellebore, of each one pound, in fine powder ;
Mix them all well together in a marble mortar ; then add half an ounce of the Essential Oil of Wormwood, and rub it well in the powders.

These powders may be dusted on the sheep in the same manner as the former, but the quantity may be somewhat larger.

SECTION LX.

SORE HEADS.

This is a common complaint among sheep during the summer, and especially such as run in lanes, or woody districts. They are mostly pestered with flies about their heads, which cause them frequently to strike their hind feet against it until a wound is made; and if no remedy be applied, it will soon become dangerous. A great number of different medicines have been made use of at different times, such as oil of hartshorn, oil of coal, and spirits of tar. The following ointment has been prepared by the author for several years past for this complaint; and in all cases it has been found to produce the desired effect.

RECIPE (No. 131.)

Take Black Pitch, two pounds;
Tar, one pound;
Black Brimstone, or Native Sulphur, one pound, in fine powder;
Put them all together into an iron pot, just give them a boil over a slow fire, and as soon as the Sulphur begins to unite with the rest of the ingredients, instantly take the whole from the fire, or it will swell and run over into the flames.

The best method of using this ointment or plaister is, first to procure a sufficient number of leather caps for

as many sheep as you intend to cap : any kind of soft leather will answer the purpose, and some farmers when short of this article make use of strong brown paper. These must be cut in a proper shape for laying on the head. Then while the ointment is melted, take a small paint brush and spread it thick upon the leather, and when near setting, apply the cap to the head. The evening is the best time for capping sheep, as there is less danger of knocking them off, and before morning the caps in general set on fast.

Others have applied it in the following manner, and found it to answer equally as well.

Take a sufficient quantity of the above ointment, and melt it in an iron pot; after it is all melted, take it from the fire and stir it about till new-milk warm, then spread it on the sore part of the head, either with a large case knife, or a spatula ; and immediately apply a little short wool upon it, in the same manner as when a charge is applied to any part about a horse. In very hot weather this ointment is apt to be too thin, so as not to have a sufficient body to adhere to the part ; but it may be easily stiffened by adding half a pound or a pound of black resin to the above quantity.

SECTION LXI.

MAGGOTS.

THERE are few if any flocks of sheep which are not subject to this kind of vermin during the summer. They either are or ought to be well understood by all shepherds, or they are not fit to have the care of sheep. A few rules however shall be laid down by which those sheep that are struck with the fly may be detected.

As soon as the maggots begin to make their appearance on any part of the body, the wool on that part becomes moist or wet;—they hold down their heads, shake their tails, and run about from place to place, and if permitted to continue in this state for a few days they must inevitably fall a victim to this kind of vermin. A great variety of different medicines have been made use of for the destruction of maggots, such as spirit of tar, spirit of turpentine, and the mercurial ointment No. 123, together with other articles of a similar nature.—The following mixture will be found adequate for the destruction of maggots in the worst of cases; the author has prepared this also for many years, and never found it to fail in effecting a cure in any one instance; in point of cheapness it certainly has a strong claim to the farmer's attention.

RECIPE (No. 132.)

Take Mercurial Sublimate, in powder, one ounce;
Spirit of Sea Salt, two ounces;
Boiling Water, three quarts;

Put them all together in a stone bottle, and when cold add
Spirit of Turpentine, one quart ;
Mix and shake them well together every time they are used.

The best method of using this mixture is as follows : shake the bottle well, and instantly fill a quart bottle with it before the turpentine has time to separate ; cork the bottle up, then bore a hole through the middle of the cork and pass a goose quill cut open at both ends, through the middle of it. By this means a proper quantity may be forced out on the part affected without much waste ; and if one ounce of tincture of assafœtida be added to a quart of the mixture, it will prove a means of preventing the fly from striking the same part a second time.

SECTION LXII.

DEBILITY AND INDIGESTION.

Sheep are frequently attacked with these complaints during the summer, which in general are brought on by fatigue through over driving, and sometimes by overloading the stomach with herbage. In either case nature requires something that is warm and stimulating, to rouse the peristaltic motion, and to give fresh vigor to the whole system. The following cordial drink will be found excellent in all cases of this kind, where action is wanted in the stomach and intestines.

RECIPE (No. 133.)

Take Anniseeds, and Carraway Seeds, fresh powdered, of each one drachm ;
Peruvian Bark, and Ginger, in powder, of each half a drachm ;
Treacle, or Sugar, half a table-spoon full ;
Common Gin, one table-spoon full ;
Mix and give it in a little warm water.

This drink may be repeated once or twice a day, if required.

SECTION LXIII.

INFLAMMATION.

SHEEP, as well as other animals, are liable to be attacked with internal inflammations during the hot weather in summer, particularly those which are driven a considerable distance when fat, to the market. This disease attacks different parts of the body, as the stomach, intestines, bladder, kidneys, and other parts.

Sheep when first attacked with inflammation in any of these parts, should be bled, either above or below the eye, as may appear most convenient at the time; afterwards give the animal the following purging drink.

RECIPE (No. 134.)

Take Epsom Salts, one ounce and an half, or two ounces, according to the size of the sheep;
Ginger, in powder, one large tea spoon full;
Treacle, one table-spoon full;
Put them in a pitcher, and pour four ounces of boiling water on them; stir the whole together, and give it when new-milk warm.

Or the following may be given if thought more proper.

RECIPE (No. 135.)

Take Castor Oil, from two to four ounces, according to the size of the sheep;
Ginger, and Salt of Tartar, of each a large tea-spoon full;
Coarse Sugar, one table-spoon full;
Mix, and give it in a tea-cup full of warm gruel.

Either of these drinks will be found sufficient to evacuate the stomach and intestines; if not, they may be repeated once a day, until they have the desired effect.

SECTION LXIV.

WOUNDS.

Wounds are not so common among sheep as other cattle, excepting those occasioned by vicious dogs, which frequently take place amongst the sheep kept near large towns, where dogs often do considerable damage. The following mixed oils should always be kept in readiness against accidents of this kind, by which means the lives of many will be saved.

RECIPE (No. 136.)

Take Linseed Oil, one pint;
Put about one fourth of it in an earthern pot, then
Add Oil of Vitriol, two ounces, by a little at a

time, keeping it constantly stirring with the other hand;
When united, add by a little at a time, four ounces of Spirit of Turpentine afterwards add the remainder of the Linseed Oil, and stir them well together; lastly add
Oil of Origanum one ounce;
Compound Tincture of Myrrh, four ounces;
Mix and put them in a bottle for use.

These oils will effectually prevent gangrene, or put a stop to a mortification in the worst of cases, if applied in time. They are likewise proper for all kinds of wounds and bruises in horses and beasts, as well as for ewes that may be torn or rent during the yeaning season. Let the parts affected be well rubbed with them once a day.

SECTION LXV.

THE DISEASES OF THE EYE.

(Commonly called Blindness.)

This disease in many instances appears to be epidemic, whole flocks being sometimes affected with it at once; at other times it appears to be brought on by fatigue and subsequent exposure in a damp or bleak situation. It prevails most in the north of England; in the neighborhood of Retford, (Nottinghamshire) it has at different times made its appearance at the latter end

of the year, and generally affected those in the best condition.

Bleeding has by many been greatly recommended for diseases of the eye; and where it can be done with safety, there is no doubt of its great utility. It may be effected "by opening the angular vein of the eye, and holding the animal's head in an inverted position, so that some drops of blood may fall into the eye. This moderates the increased action of that part which is the immediate cause of the inflammation."

There is no doubt but bleeding in most diseases of the eye, that are attended with inflammation will be found to give instant relief, especially when performed so near the seat of the disease. The following powders will in all cases of this kind be found sufficient to cleanse the eye and remove the inflammation.

RECIPE (No. 137.)

Take Sal-Ammoniac, Lump Sugar, and Lapis Calaminaris, of each two drachms, in fine powder;
Mix, and keep them in a closely corked bottle for use.

Take a small quantity of these powders on a sixpence; and while another person holds the eye open, let the powders be put in, and the sheep's head held for the space of a minute. Or the above quantity of powders may be put in a bottle with four ounces of rose water! the bottles must be well shaken, and a small quantity poured into each eye. Or if thought more proper, the powders may be mixed in a small quantity of honey of roses; a feather may be dipped into it and the eye thus be anointed with it. From these different methods of mixing and applying the powders, the operator may select that which appears most convenient to himself at the time.

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